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ABSTRACT

This five-volume report presents detailed procedures and findings of research on Japanese high school seniors, their choice of courses, educational and career expectations and preferences, and the extent to which these attitudes conform to relationships in Japanese labor markets. This fourth volume relates the student's background to his anticipations and preferences regarding income, occupational status, and type of work and business. The five volumes are available as VT 013 653-013 657. (BH)

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# A THEORETICAL AND EMPIRICAL ANALYSIS OF VOCATIONAL PREPARATION IN JAPAN

Volume IV of five volumes

The Post-School Years

December, 1970

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

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# A THEORETICAL AND EMPIRICAL ANALYSIS OF VOCATIONAL PREPARATION IN JAPAN

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Volume IV of five volumes

The Post-School Years

Project Grant No. OEG-3-6-000537-0744
Project No. 5-1325

Mary Jean Bowman
Hideo Ikeda
Yasumasa Tomoda
Bruce Harker

December, 1970

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Department of Economics and
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University of Chicago

Chicago, Illinois

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# CHAPTER V

## OCCUPATIONS AND INCOMES: STUDENT ASPIRATIONS AND PARENTAL EXPERIENCE

Instead of continuing at this point to pursue a pseudo-chronological path in the sequence of education-career decisions and events, we jump in the present chapter to perceived goals or destinations in the journey from upper-secondary school through one or another route in a life path. Only as we take some account of how young people perceive the goals of that journey, or indeed of how far they have or can express such perceptions at all, can we make much sense out of anticipations and decisions with respect to the nearer futures, at entry into the labor markets (with or without higher education) and in the early years of work experience.

This means, of course, that comparisons of student anticipations with occupational and employment structures of the Japanese labor force will hardly be appropriate unless they focus on men who are in their mature years, referring essentially to the age group of the fathers of the upper-secondary school students. It requires also that we specify occupational distributions by age and education simultaneously, to pick out the mature graduates of upper-secondary schools and of colleges and universities. But this in itself is not enough, for the Japanese economy is a dynamic one and at the same time the educational mix in the cohort now emerging from upper-secondary schools

is very different from that of the generation of their fathers. There is no such thing as an accurate projection of what today's graduates, or those in our samples, will in fact be doing when they reach their late forties, for example--or what the structure of the labor force as a whole will look like some quarter of a century from now. Indeed, any precise accounting of the degree of consistency of aspirations with "reality" is precluded by the fact that we have no knowledge, and can have no knowledge of that "reality." On the other hand, we can and will make some assessments of general orders of magnitude and plausibility in student perceptions.

The main concerns of this chapter are not with comparisons between student perceptions and the structure of the Japanese labor force, however. Rather, we are interested in expectational and preference profiles as these youth look toward their futures, and how those profiles may relate to their backgrounds and their choices and experiences of one or another sort of upper-secondary schooling. Four major vectors of these anticipations are involved, as in preceding chapters: (1) First is preferences and anticipations with respect to employment status at the mature stage in a man's career. Does he look forward to being and would he prefer to be independent, whether a proprietor or working on his own account? Does he look forward to work in the government, as a corporation employee (or manager), as an employee in a small enterprise? (2) Second is the type of work he would like to do and

looks forward to doing. Here we refer to the sort of categorization discussed in Chapter III (pp. 126-28), where we presented the basis of our specification of four main "types": (a) agricultural and related, (b) technical-manual (at all status levels, but always involving a three-dimensional perception or a sense of working with things), (c) the sales and service occupations entailing associations or interaction with people as a central component in the job, and (d) the white collar non-technical, including most professional men (but not engineers) and ranging in status from the lowliest clerk to the Prime Minister of Japan--though no one expressed the latter aspiration! In the following pages we will elaborate "type" classifications in several alternative versions in order to illuminate particular issues or to facilitate comparisons with other data. Some of these refinements inevitably introduce a closer association with the third major dimension. (3) That third dimension is occupational status, which was scored as part of the initial occupational coding, applying the Duncan scale to the three-digit occupational classifications from the U. S. Census with minor adaptations to the Japanese situation.[1] However, for the purposes of the present study we retained eight status distinctions only. (4) Finally, the fourth dimension is of course anticipated earnings. These especially can be interpreted only in relative terms; which students expect the higher future incomes, and with what factors is this associated?

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[1]This procedure was discussed briefly in earlier chapters and is described more fully in Appendix C.

Anything like correct projections of absolute levels of earnings a quarter century hence would be surprising, but relative predictions are another matter. Furthermore, it is the relative predictions that are the most interesting and indeed the critical ones for human investment decisions. Discussion in this chapter will follow roughly the order suggested by these preliminary comments on the four major dimensions of career anticipations and realizations.

## I. Dimension 1: Employment Status--Facts and Preferences

Japan is today a leading industrial nation whose growth dynamic has become the envy of much of the world, especially over the past decade--even though in absolute terms incomes per capita are still in the lower middle range. Along with the high level of industrialization in Japan goes an occupational and employment structure similar in many respects to those of Western Europe rather than to less developed nations on the one hand or to the United States and Canada on the other. But the Japanese structure is also a distinctive one. The contrast between small-scale, more traditional activities and modern giant corporate enterprises remains dramatic, even though the dualism of segregated labor markets is eroding with the diffusion of the growth dynamic and the proclaimed "shortages of labor."[1] Both the backgrounds of the

[1]The very notion of a "shortage of labor" in so densely populated a nation as Japan, with such a limited natural resource base and so distant from other industrial centers and sources of raw materials, is in itself an

students in our samples and their preferences and perceptions with respect to future careers and employment status reflect the simultaneous strength of the traditional elements in employment relationships and the adaptive dynamic of the modern Japanese economy.

Source Statistics for the Labor Force at Large

A quick overview of the situation in the early 1960's is provided by Tables 5-1 and 5-2. Approximately a fourth of the Japanese labor force were engaged in agriculture, a figure just under the Italian proportions and just over the French; India, of course is way out at an extreme of almost three-fourths, while proportions in agriculture were below a tenth in the United Kingdom, the United States and Canada. In Japan as in the West, proportions in agriculture continued to decline over the decade.

Overall, the Japanese pattern of employment outside of agriculture is closer to the French than to any of the other countries included in Table 5-2. Proportions who were independent employers or self-employed in manufacturing, trade and service industries were generally less in Japan than in Italy, but higher than in the other western countries included in the table. This is by

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anachronism. Furthermore, Japan is a land of highly educated people. The "shortage of labor" proclaimed in recent years in Japan is neither more nor less than a rising marginal productivity and the reactions of employers to an unaccustomed situation, with associated upward shifts in job options open to the ordinary Japanese, in their wage alternatives, and belatedly in mass levels of living.

TABLE 5-1

THE EMPLOYMENT STATUS STRUCTURE OF THE JAPANESE LABOR FORCE, 1960; PERCENTAGE DISTRIBUTIONS

| | Employment Status Distributions | | | | Female Percentage of Numbers in Each Status Category (A11 industries) |
|---|---|---|---|---|---|
| | Total Labor Force (Both Sexes) | Male Labor Force | | | |
| | | Total | Agri-cultural | Non Agri-culture | |
| Employers | 2.7 | 3.7 | 2.0 | 4.4 | 16.1 |
| Work on Own Account | 18.7 | 23.9 | 58.9 | 11.1 | 22.1 |
| Home Craft | 0.7 | 0.1 | - | 0.6 | 96.3 |
| Family Workers | 24.1 | 10.7 | 30.7 | 3.7 | 73.0 |
| Government Employee | 8.0 | 9.7 | 1.0 | 12.7 | 26.0 |
| Private Employee: | | | | | |
| Outside home | 38.0 | 44.0 | 6.4 | 57.2 | 29.4 |
| In home | 6.2 | 5.3 | 1.0 | 6.8 | 47.2 |
| Corporation Executives or Directors: | | | | | |
| Outside home | 0.9 | 1.4 | a | 1.8 | 3.2 |
| In home | 0.8 | 1.1 | a | 1.5 | 13.2 |
| N.R. | a | a | a | 0.2 | 65.2 |
| Total: Percent | 100 | 100 | 100 | 100 | 39.1 |
| Number('00) | 436,905 | 266,092 | 68,866 | 197,237 | 170,813 |

Source: Computed from 1960 Japan Census of Population, Vol. II, Part 4. Table 3.

TABLE 5-2

SUMMARY INTERNATIONAL COMPARISON OF SECTORAL EMPLOYMENT STATUS
STRUCTURES OF THE LABOR FORCE

| | Canada | United States | United Kingdom | Sweden | France | Germany | Italy | Japan | India |
|---|---|---|---|---|---|---|---|---|---|
| Percentage of Labor Force in Agriculture, Forestry and Fishing | 9 | 6 | 5 | 14 | 20 | 11 | 25 | 27 | 73 |
| Manufacturing | | | | | | | | | |
| Total (thousands) | 1,602 | 19,468 | 8,444 | 1,109 | 5,319 | 10,092 | 5,677 | 11,620 | 17,906 |
| Percentages: | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Employer or self | 2.9 | 1.7 | 2.6 | 5.2 | 7.8 | 5.6 | 17.6 | 9.1 | 62.4 |
| Wage or salaried | 95.7 | 98.1 | 95.9 | 94.0 | 90.8 | 92.7 | 79.5 | 85.0 | 35.4 |
| Family worker | b) | 0.2 | * | 0.8 | 1.3 | 1.7 | 2.9 | 5.9 | 2.2 |
| Other or N. R. | 1.4 | — | 1.5 | — | — | — | — | — | — |
| Trade and Commerce | | | | | | | | | |
| Total (thousands) | 1,379 | 17,514 | 3,143 | 439 | 2,596 | 3,759 | 2,790 | 9,370 | 7,654 |
| Percentages: | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Employer or self | 13.8 | 15.0 | 16.3 | 15.5 | 25.0 | 19.6 | 41.6 | 22.8 | 61.3 |
| Wage or salaried | 83.7 | 82.8 | 82.3 | 81.3 | 68.5 | 73.7 | 42.6 | 58.4 | 22.9 |
| Family worker | 2.5 | 2.2 | 0.5 | 3.2 | 6.5 | 6.7 | 15.8 | 18.8 | 15.8 |
| Other or N. R. | — | — | 0.9 | — | — | — | — | — | — |
| Sources | | | | | | | | | |
| Total (thousands) | 1,846 | 21,279 | 5,358 | 643 | 3,954 | 5,391 | 2,866 | 7,270 | 16,660 |
| Percentages: | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Employer or self | 9.6 | 10.9 | 7.1 | 6.2 | 15.9 | 9.6 | 12.1 | 16.8 | 39.9 |
| Wage or salaried | 89.5 | 88.3 | 80.2 | 93.3 | 81.8 | 87.2 | 87.0 | 77.3 | 54.1 |
| Family worker | 0.9 | 0.8 | 0.2 | 0.5 | 2.3 | 3.2 | 0.9 | 5.9 | 6.0 |
| Other or N. R. | — | — | 12.5 | — | — | — | — | — | — |

Source: ILO Yearbook, 1965

[b] Included with "self."

no means a picture of a small enterprise nation. However, Japan is distinctive in the high proportions who were and are "family workers." Even in manufacturing six percent of the Japanese labor force were recorded as "family workers," leading by a wide margin even the Indians. In trade the family workers were almost a fifth in Japan, and in the service industries they approximated the Indian six percent figure. This pattern in Japan is significant for its sex aspects; two-fifths of the total active labor force, three-fourths of all "family workers" (and 96 percent of all engaged in home crafts for direct sale) were women, and symbiotic female labor has been a critical factor in the economic life patterns of independent male employers and workers on their own account even outside of agriculture. Among males in non-agricultural employments, a sixth were proprietors or workers on their own account, one in eight was a government employee, and two-thirds were in private employment (with 7 percent employees working at home). The drift is unquestionably toward the western patterns, but trade and to a lesser degree the service industries retain substantial small and family enterprise elements and even in manufacturing traditional small family units linger on. Although there have been a number of special studies of "small enterprise" in Japan, that term is often used to refer to enterprises employing 30 to 100 or more men and the tiny operations are not counted in the periodic fundamental wage surveys. Yet adding together proprietors, workers on their own account and in home crafts, and family workers accounts for a fifth of the active

non-agricultural labor force. At the other extreme, the relatively small proportions employed in government, even among highly educated persons, is a striking feature of the Japanese economy; government accounts for only a tenth of the employed males and six percent of employed females.

## Incidence of Independent and Family Enterprises among Sample Fathers

Representation of non-farm fathers who were proprietors, self-employed, or participants in family businesses substantially exceeded the proportion of a fifth in the total population who were employers, independent, or family workers. By type of school these proportions among students reporting father's occupation were: General B, 33 percent; General A, 37 percent; Agriculture, 31 percent; Commerce, 42 percent; Technical courses, 28 percent. There are several reasons for these comparatively high figures. First, the definitions are not strictly comparable, since the census count excluded but we included men who identified themselves or were identified by their sons as engaged in a "family business" even when they received wage or salary payments as family employees. In addition, the age factor is crucial, and for two reasons. First, in the normal course of a working life in Japan as elsewhere men are more likely to move into independent enterprise and proprietor status from wage employment than vice versa; there is consequently a larger proportion of men in such status categories in the age cohorts of fathers of our sample of students than among younger men or the population

at large. In addition the long-term trends are against the independent and own-account employment category, which reduces further the overall proportions (including young men) relative to proportions of middle-aged men in such situations. The fact that of non-farm sons the highest proportions with fathers in independent employment statuses were in the General A and the Commerce curricula is of course to be expected. Small enterprisers and own-account workers are relatively more important in the more rural areas from which most of the General A students come, and such men will be the most inclined to urge their sons into acquisition of commercial skills at the secondary level of schooling.

Attitudes toward Independent Employment Status

It is always dangerous to draw inferences about a society from the members of academic communities, whether the society be Japan or the United States or any other. This is not just the inbuilt and half-conscious pro-education bias of academics, most of whom take it for granted, for example, that consumer satisfactions are a major unmeasured positive benefit of education. There are also inclinations toward some as against other sorts of career patterns, and employment status sterotypes seem to recur widely across societies. In Japan in particular a common academic's presupposition seems to be that virtually "everyone" would rather work for a big company, or for the government, than for a small firm, and that independent economic status offers very little promise.

There are exceptions, to be sure; they are the modifier "virtually" in the generalization, and apply to members of wealthy and privileged business families but to few others except, occasionally, an independent professional man. How far, in fact, are such presuppositions supported, how far are they challenged by the expressed preferences of students in the last year of upper-secondary school?

Expressed preferences among employment status categories are shown by course type and by parental status as a wage and salaried man or an independent enterpriser or professional man in Table 5-3. (That table summarizes a number of other preference, expectation and background characteristics as well.) It is indeed true that among students in only one category--sons of independent enterprisers enrolled in commerce courses--did a decided majority stipulate preference for independent or family employment. However, a majority of the General B sons of independent and family enterprises also expressed that preference, as did almost half of the sons of independent enterprisers who were attending General A and technical courses. Even among sons of wage and salaried men the proportions who expressed a preference for working on their own or as independent enterprisers ran to around a third in all courses except General A, where it dropped to under a fourth. This along with other characteristics of the General A students suggests their lack of self-confidence and economic assurance. It is not accidental that regardless of parental background the General A and agricultural course students were the most

TABLE 5-3

MEAN VALUES OF SELECTED VARIABLES BY TYPE OF COURSE
(EXCLUDING FARMERS' SONS)

| | Sons of Wage and Salaried Men | | | | | Sons of Men in Independent and Family Enterprise | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | General B | General A | Agri-culture | Com-merce | Tech-nical | General B | General A | Agri culture | Com-merce | Tech-nical |
| Number of Cases | 620 | 82 | 58 | 336 | 987 | 300 | 49 | 26 | 242 | 389 |
| EXPSTA 1, 2, 3 | .461 | .268 | .155 | .238 | .353 | .360 | .163 | .192 | .244 | .334 |
| 4 | .145 | .220 | .172 | .304 | .152 | .140 | .184 | .039 | .231 | .185 |
| 5, 6 | .026 | .073 | .190 | .048 | .078 | .070 | .102 | .077 | .066 | .082 |
| 7, 8 | .002 | .012 | .017 | .018 | .005 | .003 | .020 | .039 | .008 | .008 |
| N. R. | .366 | .427 | .466 | .393 | .412 | .427 | .531 | .654 | .450 | .391 |
| ONEX: W.C., Prof. | .719 | .537 | .483 | .420 | .404 | .300 | .184 | .039 | .169 | .149 |
| Trade, Service | .029 | .061 | .017 | .083 | .056 | .430 | .347 | .615 | .554 | .337 |
| Manual | .137 | .195 | .310 | .366 | .407 | .203 | .245 | .154 | .223 | .411 |
| Agriculture | .002 | .073 | .035 | .018 | .004 | .013 | .184 | .077 | .021 | .023 |
| N. R. | .113 | .134 | .155 | .113 | .129 | .053 | .041 | .115 | .033 | .080 |
| PREF EMPL. STATUS | | | | | | | | | | |
| INDEP. (ME) | .348 | .232 | .310 | .369 | .340 | .553 | .490 | .346 | .632 | .478 |
| GOV. | .176 | .268 | .293 | .119 | .102 | .100 | .204 | .269 | .046 | .067 |
| BIG (private) | .374 | .183 | .155 | .277 | .262 | .250 | .102 | .231 | .157 | .226 |
| SMALL (private) | .082 | .317 | .241 | .229 | .279 | .083 | .204 | .115 | .153 | .211 |
| OTHER, N. R. | .019 | — | — | .006 | .016 | .013 | — | .039 | .012 | .018 |
| EXAM | .932 | .220 | .052 | .182 | .153 | .960 | .122 | .269 | .203 | .172 |
| FIRM-T | 1.982 | 2.146 | 1.914 | 1.768 | 1.713 | 2.180 | 2.143 | 2.039 | 1.963 | 1.833 |
| FREQ-M | 47.852 | 29.549 | 13.517 | 62.321 | 68.200 | 53.693 | 26.040 | 14.346 | 67.831 | 60.183 |
| SLOW-50 | 3.734 | 9.305 | 11.466 | 1.289 | (1.000) | 4.637 | 8.286 | 9.039 | 1.260 | (1.000) |
| CLED-HI | 25.877 | 13.488 | 4.897 | 6.125 | 8.551 | 20.887 | 11.286 | 5.308 | 5.533 | 8.517 |
| CLO-WC | 41.702 | 61.378 | 73.579 | 70.783 | 65.200 | 48.757 | 64.122 | 71.962 | 70.479 | 66.555 |
| FLEVF-1 | .037 | .073 | .052 | .128 | .102 | .063 | .184 | .115 | .149 | .131 |
| 2 | .290 | .524 | .621 | .539 | .505 | .457 | .592 | .654 | .504 | .530 |
| 3 | .376 | .281 | .241 | .253 | .282 | .323 | .163 | .077 | .252 | .229 |
| 4 | .139 | .037 | .052 | .039 | .059 | .043 | .041 | .115 | .033 | .033 |
| 5 | .111 | .037 | — | .015 | .018 | .067 | — | — | .012 | .013 |
| N. R. | .047 | .049 | .034 | .027 | .034 | .047 | .020 | .039 | .050 | .064 |
| OSTAF 1, 2, 3 | .510 | .244 | .155 | .173 | .175 | .207 | .122 | .139 | .099 | .087 |
| 4 | .232 | .159 | .224 | .194 | .180 | .173 | .102 | .115 | .116 | .075 |
| 5, 6 | .157 | .317 | .276 | .375 | .359 | .460 | .592 | .539 | .579 | .573 |
| 7, 8 | .084 | .207 | .207 | .232 | .249 | .150 | .122 | .269 | .178 | .231 |
| N. R. | .018 | .073 | .138 | .027 | .037 | .010 | .061 | .039 | .029 | .033 |
| CLASS RANK 1 | .163 | .061 | .103 | .116 | .181 | .130 | .204 | .192 | .099 | .180 |
| 2, 3, 4 | .652 | .744 | .690 | .726 | .671 | .693 | .571 | .615 | .719 | 697 |
| 5 | .123 | .134 | .086 | .116 | .118 | .127 | .225 | .154 | .145 | .087 |
| N. R. | .063 | .061 | .121 | .042 | .030 | .050 | — | .039 | .037 | .036 |
| FY-B; FY-N (Thous. Yen) | 932 | 661 | 621 | 683 | 715 | 1,868 | 943 | 930 | 1,849 | 1,110 |

likely to express clear preferences for employment in government. Another notable feature of these preference responses is the contrast between sons of wage and salaried men and independent enterprisers in their attitudes toward employee status in small private enterprises. Regardless of parental characteristics, General B students rarely made that choice, but otherwise it was the sons of the wage and salaried men who were most attracted to wage work in a relatively small firm. Furthermore, regardless of parental background proportions expressing a preference for wage or salaried employment in small private enterprises stood up remarkably well in comparison with proportions expressing a preference for work in the big firm. Among non-farm General A students and among wage workers' sons attending agricultural courses the small firm was definitely preferred as an employer to the big one. Among farmers' sons generally PREF-ME came first; big and small private employers matched for second place.

Realistic or not, these were not the preference patterns that many Japanese academicians had anticipated. But that is not all. We are observing in these data also the effects of different sorts of "exposure" to career information and communication channels, and different objective parameters of career choice that relate not only to type of schooling but also, in major degree, to family situation and perhaps community of residence. It is not just "ability" that interacts with schooling to differentiate individuals in respect to the economics of educational investments. Other factors influencing available and perceived

career options can also make a substantial difference in the economic calculus of educational decisions, and with respect to both type and level of educational attainments. This will be evidenced further as we look at other dimensions of the ways students perceive their futures and some of the factors associated with various career anticipations. It will of course be particularly notable when we come, toward the end of this chapter, to a special examination of some relationships between farm characteristics and views of farm fathers and the career anticipations of their sons.

## II. Dimension 2: Types of Occupations

Several alternative, overlapping classifications were used in attempting to distinguish meaningful "types" of occupations from a hierarchical ordering of "levels." The importance of making such a distinction, and of focussing attention separately on type characteristics will hardly be challenged, but some of the reasons for doing so are worth brief summary here because they point up also the reasons for the particular categorizations that we used.

Most obvious, and indeed critical, is the distinguishing of farmers from all others--whether we are looking at the fathers of our students or at the students' career perceptions for themselves. Indeed, in every attempt to set occupations in some sort of status hierarchy the problem of how to handle farmers is an almost insurmountable one--whether we are talking about Japan or the United States or almost any other country. The problem is compounded when the population of farmers is those whose sons attend secondary schools.

That farmers constitute a distinctive group, a group with its own status ordering not properly placed within an urban occupational hierarchy, is illustrated again and again in studies relating to this topic in one country after another; it has already become clear enough for Japan in earlier pages of the present study. The value of distinguishing agricultural occupations and farming in particular from all others is enhanced by the fact that agricultural secondary schools constitute a numerically important segment of the rural school system of Japan. Fortunately, their very distinctiveness from other sorts of occupations means that the categorization "agricultural" raises relatively few serious problems of demarkation.[1] In other spheres we experimented with alternative simplifying categorizations, sometimes to focus attention on particular aspects of the typing, sometimes to provide comparability with other sources of information.

The skeletal distinctions outside of agriculture were a typing according to whether the occupation was (1) Objected-oriented (technical or manual), (2) People-oriented at the level of contacts with the general public, or (3) White-collar and non-technical professional, with this last category sometimes divided into Clerical on the one hand and Administrative and Professional on

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[1] The occasional forester or fisherman in our sample of farmers counted as "agricultural" raises no problems. More serious in some instances is the inclusion of "agricultural agents" with agricultural career anticipations of students; however these are so few as to be of little concern for most purposes. Where relevant we will comment on that sub-category of "agricultural" specifically.

the other. But even with a splitting out of Clerical the last of these broad classifications remains an extremely heterogeneous category. So does the categorization technical-manual, or object-oriented. In reality occupations, and more particularly jobs, are in fact mixes in various proportions of overlapping elements in both skill requirements and sorts of personal qualities and appeal involved. Occupational classification III (already shown in Table 3-13 and elsewhere) was only one of several ways in which occupational types were categorized for the present study. Table 5-6 shows the effects of shifting from that to an overlapping but different classification, designated Classification I, which is a closer approximation to more standard census rubrics. However, further modification was necessary when direct comparisons with the occupational distributions for particular age or education categories in the general population were entailed, as in Table 5-4.

## Some Census Benchmarks and Some Comparisons with Parental Occupations

Two main comparisons with census data relating to types of occupations are particularly relevant for this study. One of these is an analysis of male occupational distributions by education, unfortunately not available for the total labor force on simultaneous cross-classifications by age.[1] The other

[1] Such classifications, with many further refinements, are available for wage and salaried employees in private firms of 10 or more employees and in odd spots for other groups, but not for the population as a whole.

is types of occupations by age. Only the former is presented systematically at this point (Table 5-4), since the main interest in shifts by age must be in the analysis of occupational sequences, in Chapter VI. However, comments concerning occupational distributions among mature males in the Japanese labor force will be introduced as appropriate in the discussions that follow.

The distributions shown in Table 5-4 are very different from those in other nations, reflecting in part at least the marked educational lead over economic levels of attainment in Japan a decade ago. This is particularly noticeable in the large proportions of university graduates classified as "clerical workers"; clerical workers alone made up almost a third of the male university graduates. Taking clerical and sales together we have over two-fifths, and this particular figure has scarcely changed over the ten years since 1960. Taking both sexes, 50 percent of Japanese university graduates were in such jobs. In no other nation, including the United States, do we find anything approximating such a fraction; for the United States the 1960 proportions were 9 percent in clerical and 9 percent in sales jobs, for a total of 18 percent of all university graduates as compared with half of those in Japan. At the other extreme, in Sweden (where university graduation is indeed more selective) the corresponding figure for 1960 was only 4 percent. The fact that university graduates have an age distribution that is generally younger than the population at large cannot alone account for these contrasts, for it applies in the United States as in Japan. Whether, given labor market structures, that

TABLE 5-4

PERCENTAGE DISTRIBUTIONS OF OCCUPATIONS OF JAPANESE MALES AGE 15 AND OVER BY LEVEL OF SCHOOLING; 1960 SAMPLE CENSUS (EXCLUSIVE OF AGRICULTURE)

| | Education Category | | | |
|---|---|---|---|---|
| | Compulsory Only | Middle or Upper Sec. | Jr. College or Equiv. | University |
| Professional Non-technical | 0.8 | 4.7 | 30.6 | 28.2 |
| Government Managers and Officials | 0.2 | 0.6 | 1.6 | 1.1 |
| Managers and Proprietors in Private Business (Excl. Trade) | 2.9 | 6.0 | 13.1 | 12.2 |
| Traders and Salesmen | 11.5 | 15.0 | 8.1 | 9.1 |
| Real Estate and Insurance Agents | 0.3 | 0.5 | 0.6 | 0.7 |
| Clerical Workers | 5.7 | 27.4 | 24.0 | 32.7 |
| Technical (Incl. Transport) | | | | |
| Technical-professional | 0.6 | 2.1 | 6.6 | 6.6 |
| High-level skills | 5.5 | 7.8 | 3.5 | 1.8 |
| Other Manual (Incl. Transport) | | | | |
| Skilled heavy industry | 14.8 | 6.9 | 1.7 | 0.8 |
| Construction | 8.1 | 2.6 | 1.3 | 0.9 |
| Excavation, etc. | 3.6 | 1.4 | 0.5 | 0.2 |
| Semi-skilled | 20.0 | 9.6 | 3.7 | 2.3 |
| Unskilled | 19.2 | 8.6 | 1.9 | 1.3 |
| Service Workers: | | | | |
| Miscellaneous | 4.6 | 2.8 | 1.2 | 0.9 |
| Protective | 2.0 | 3.9 | 1.6 | 1.2 |

Source: 1960 Japan Census of Population, Volume 2, Part 4. Table 9. Data are regrouped for purposes of comparison with data on the fathers in our study sample.

fact is substantially more important for the Japanese is by no means clear, despite common beliefs and impressions that such is the case.[1] Occupational distributions among male graduates of junior colleges and their equivalents closely resemble those for university graduates with the important exception that there are fewer clerical workers (a fourth instead of a third), with somewhat larger proportions in the technician, the skilled manual and the unskilled manual ranks. The technician and skilled manual proportions reflect the emphasis in the older junior colleges on technical education; but equally revealing is the importance among junior-college men of non-technical professional employments and desk work.

The education category of most immediate relevance to upper-secondary school students contemplating direct entry into the labor market is of course that designated in Table 5-4, column (2) as "Middle or Upper Sec." There are few professional men in this education category and only half as many middle as college or university graduates were managers or proprietors in private businesses other than trade. Many more of them than of the more highly educated (or those with only compulsory schooling) were salesmen or proprietors and managers in trade, and they boasted the largest proportions of high-level technicians and skilled manual workers and of men in the

[1] For further indications on this matter see the discussion of occupational sequences and age patterns in Chapter VI.

protective services. We will come back to this distribution when we look at the distribution of career hopes or anticipations among graduates of the non-academic secondary curricula. The white collar and the manual skill differentials between the secondary and the compulsory school graduates are evident enough, but notable also is the extent to which the latter managed to attain skills that could qualify them as high-level technicians, other types of manual skill aside. Systematic training within business enterprises and other special types of short-term schooling are part, but only part, of the explanation. (These computations are all, it should be remembered, exclusive of agricultural employment.)

It is reasonable to hypothesize that career anticipations of youth in the senior year of upper secondary school will reflect facts that they can observe around them concerning associations between schooling and occupations, and that the reference framework in anticipations of occupational situations in mature years will relate specifically to what they observe among men in the general age bracket of their fathers. However, those observations will be modified in time with expected changes in occupational structures, and evidence will be filtered through information screens that may be affected by: type of community (occupational structures in the more-or-less immediate environment), by parental backgrounds, by classroom composition, type of course, and so on. Before exploring these relationships, however, it may be useful briefly to extend our initial checks on selectivity into secondary education

(in Chapter III) by a few further comparisons of occupational distributions among the mature male labor force and among the fathers of upper-secondary students.

Excluding farmers from both the census numbers and the "father" samples, we compared all men aged 45-49 with "fathers" aged 40 and over, using fathers' reports of their occupations. Combining non-technical professions with managerial, sales and clerical workers accounted for 45 percent of the total non-farm male labor force age 45-49 and for 55 percent of the non-farm fathers of senior students in the upper-secondary school sample. Corresponding proportions in technical-professional, technician, and highly skilled occupations (excluding skilled workers in heavy industry) were 5 percent and 11 percent. The proportions in service occupations were approximately the same overall in the male population age 45-49 and among the non-farm fathers of our sample, at 5-1/2 percent; however, most of the latter were protective service workers whereas a majority of the former were engaged in other sorts of service activities. The middle and lower levels in manual skills were of course the most under-represented among our "fathers"; 44 percent of the total male population in the 45-49 age bracket were in this broad category as against 29 percent of the sample fathers. Most of the difference was at the lowest skill levels, for semi-skilled and unskilled manual workers; they constituted 24 percent (out of the 44 percent just cited) for the age 45-49 non-farm male labor force at large, but only 13 percent

for fathers in our sample. The latter figure was in fact also an overstatement, since it is taken from the original and not the adjusted sample population. Another contrast that was hidden in the aggregated figures for non-technical professional, managerial and white-collar men was the specially high representation of sales people and retail proprietors, the relatively low representation of clerical occupations among the fathers of our students; this is of course in part a manifestation of an associated upward bias in proportions of "fathers" who were independent enterprisers as compared with wage and salaried men.

A preliminary glimpse of age shifts in occupational distributions among family men is provided in Table 5-5, using data for the samples of respondent fathers of both the upper-secondary and the primary-school students. These two samples have been merged and then sub-classified by independent or employee status as well as into those over and under forty years of age. The younger men are of course mainly fathers of the primary-school children, though a few are "male heads of family" whose younger brothers were in upper secondary school. The men over 40 are mainly, but by no means exclusively, fathers of the secondary-school youth. There is therefore a probable sample bias that should exaggerate any tendency toward decline in proportions of unskilled and semi-skilled manual workers between the younger and older ages. Even so, the difference in this category is small, with an

TABLE 5-5

PERCENTAGE DISTRIBUTIONS OF "PRINCIPAL" OCCUPATIONS OF NON-FARM FATHERS OF PRIMARY AND UPPER-SECONDARY STUDENTS

| | Own Family or Enterprise | | Employee | | Total | |
|---|---|---|---|---|---|---|
| | Age 40+ | Age Under 40 | Age 40+ | Age Under 40 | Age 40+ | Age Under 40 |
| (1) Professional, Non-technical | 6.4 | 5.4 | 11.8 | 12.2 | 9.7 | 10.5 |
| (2) Government Managers & Officials | — | — | 8.5 | 6.3 | 5.2 | 4.7 |
| (3) Managers & Proprietors in Private Business Excluding Trade | | | | | | |
| Artisan manufacture and related | 9.5 | 7.5 | — | — | 3.8 | 2.0 |
| Construction | 0.9 | 0.9 | 0.1 | * | 0.4 | 0.3 |
| Other | 0.2 | ... | 0.9 | 0.3 | 0.7 | 0.2 |
| (4) Insurance & Real Estate Agents | 0.9 | 0.4 | 2.0 | 2.1 | 1.6 | 1.6 |
| (5) Wholesale Dealers & Commodity Brokers | 11.9 | 13.3 | 6.6 | 4.9 | 8.6 | 7.1 |
| (6) Retail Dealers, Restauranteurs, Salesmen: | | | | | | |
| High | 6.9 | 7 2 | 2.1 | 3.3 | 3.9 | 4.3 |
| Other | 28.7 | 30.7 | 3.0 | 3.1 | 12.8 | 10.2 |
| (7) Clerical Workers | 0.3 | 0.3 | 12.1 | 11.6 | 7.6 | 8 7 |
| (8) Technical (incl. in Transport) | | | | | | |
| Professional-technical | 0.9 | 0.7 | 5.0 | 6.6 | 3.4 | 5.1 |
| Highly skilled (except heavy industry) | 4.1 | 3.8 | 9.1 | 9.4 | 7.1 | 7.9 |
| (9) Other Manual (incl. in Transport) | | | | | | |
| Skilled in heavy industry | 2.7 | 2.8 | 7.7 | 4.5 | 5.8 | 4.0 |
| Construction | 12.9 | 14.7 | 7.1 | 9.1 | 9.3 | 10.5 |
| Excavation and mining | * | — | 1.1 | 0.9 | 0.6 | 0.7 |
| Traditional artisans | — | — | 1.6 | 1.3 | 1.0 | 0.9 |
| Semi-skilled operators and unskilled labor | 6.5 | 5.0 | 15.8 | 20.4 | 12.2 | 16.6 |
| (10) Service Workers | | | | | | |
| Protective | 4.3 | 5.0 | 3.5 | 2.2 | 3.8 | 2.9 |
| Other | 0.9 | 1.4 | 1.8 | 1.4 | 1.4 | 1.4 |
| (11) Fisheries and Related | 1.9 | 0.8 | 0.2 | 0.2 | 0.9 | 0.3 |
| Total: Percentage | 100 | 100 | 100 | 100 | 100 | 100 |
| Number | 2,767 | 721 | 4,432 | 2,066 | 7,199 | 2,787 |

*Under 0.05 percent.

eighth of the older and a sixth of the younger men (among wage and salaried men 15.8 and 20.4 percent respectively). There is of course a shift into managerial and official status between the younger and the older men, to be expected over the life cycle, any shifts in the Japanese occupational structure aside. As of 1966, when these data were collected, the younger men were less likely than the older ones to be in protective service, but this trend could easily be reversed in the future. More permanent is the increase in men classified as professional-technical over succeeding cohorts. This shift is reflected, as we will see, in career aspirations of the upper-secondary students in academic as well as technical courses. Overall, nevetherless, the remarkable thing about this table may be more in the similarities of the distributions for the older and younger men within the independent and the employee categories than in the differences between the two age cohorts.

## Students' Occupational Expectation Types and Their Correlates

The student interview questionnaire asked two questions concerning ultimate career hopes or goals. The first of these questions referred to aspirations in one's "dreams"--or "castles in the air." Very deliberately, the students were encouraged to set down their thoughts however unrealistic those dreams might be. A second question asked them to be more realistic, stating what they expected they might in fact really be doing. The second

question was also an aspiration, in that they were to express a preference, but one they thought they had a very good chance of realizing. Most of the analyses of occupational expectations that follow, both with respect to type of occupation and status level, refer to responses on this second question. In the rare instance in which we introduce responses to the "dream" question they will be explicitly designated as such.

Truncated distributions of students' occupational expectations ("realistic" hopes for 20-30 years hence) were shown by type of course for sons of wage and salaried men and for sons of independent enterprisers in Table 5-3. ("Mean values" for variables in dummy sets are of course in fact proportions, and if the complete set is shown they will add up to 1.00.) Since sons of farmers are excluded from this table, it should hardly surprise us that few expressed a preference to go into agricultural employment as a life career; the very low figures even among youth in the agricultural courses strongly suggests, however, that they were attending such courses primarily for lack of opportunity to go elsewhere. Among the interesting contrasts is the striking difference between sons of wage and salaried men and sons of independent enterprisers in proportions anticipating non-technical office, managerial, and professional employments, exclusive of retailing and services. Across school types the lowest proportion among sons of wage and salaried men was 40 percent (in the technical curricula) whereas the highest proportion among

sons of independent enterprisers was only 30 percent (in General B). The latter hoped and planned rather to run their own or family undertakings or even, among youth in the agricultural schools, to work for pay in retailing or other service enterprises. It is notable also that even setting aside the technical schools substantial minorities contemplated non-agricultural technical or manual employment. Responses on anticipated occupations were typically adequate for classification into broad type categories; in fact well over 90 percent of the sons of independent enterprisers gave responses that could be unambiguously classified by type, with agricultural course students the only (and minor) exception. Among sons of wage and salaried men responses were somewhat less complete, but even these ranged from 85 to 89 percent adequate. This is easily seen by reading across the row ONEX: 0 for N.R. However, a large minority of responses on expected occupations were not precise enough to classify by status level, as is shown in the last line of the EXPSTA set at the top of Table 5-3; this introduces a problem to which we will return when we come, in the next section, to look at status expectations.

More detailed distributions of types of occupations are shown using two partially overlapping classifications in Table 5-6, taken from the adjusted sample and including sons of farmers. In addition to the direct comparisons between distributions of fathers' occupations and of types of occupations anticipated by sons in each course, this table includes chi square values for cross

TABLE 5-6

PERCENTAGE DISTRIBUTIONS OF TYPES OF OCCUPATIONS REPORTED BY FATHERS AND EXPECTED ("REALISTIC" ASPIRATIONS) BY STUDENTS; ALL STUDENTS (UNADJUSTED SAMPLE) AND SUB-SAMPLES BY TYPE OF COURSE

| | All | | General B | | General A | | Agriculture | | Commerce | | Technical | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F[a] | S[a] | F | S | F | S | F | S | F | S | F | S |
| Classification I | | | | | | | | | | | | |
| Number Classified: | 3,622 | | 925 | | 225 | | 664 | | 529 | | 1,276 | |
| 1.1 Professional, incl. technical-professional | 6.2 | 28.7 | 15.0 | 46.5 | 2.2 | 11.1 | 0.5 | 4.7 | 3.6 | 7.8 | 4.5 | 40.2 |
| 1.2 Government administration | 3.3 | 6.0 | 5.3 | 7.7 | 4.4 | 12.0 | 3.2 | 8.3 | 1.7 | 4.5 | 2.4 | 3.1 |
| 1.3 Business managers proprietors (incl. junior management) except small retail | 12.8 | 27.3 | 23.7 | 27.1 | 8.9 | 35.6 | 1.5 | 12.3 | 14.2 | 46.7 | 11.1 | 25.7 |
| 1.4 Retailers and related | 13.4 | 8.6 | 14.4 | 5.5 | 12.9 | 16.0 | 2.9 | 5.0 | 26.1 | 23.8 | 13.0 | 5.2 |
| 1.5 Clerical | 5.9 | 3.9 | 6.8 | 4.3 | 5.8 | 7.6 | 1.5 | 2.3 | 7.6 | 11.2 | 6.7 | 0.9 |
| 1.6 Technicians and highly skilled | 9.7 | 5.9 | 7.0 | 2.7 | 4.0 | 3.1 | 1.7 | 3.6 | 11.3 | 2.6 | 16.2 | 11.3 |
| 1.7 Artisans, skilled and semi-skilled in manufacturing | 9.0 | 3.5 | 6.5 | 2.4 | 6.2 | 3.1 | 1.4 | 1.8 | 13.8 | 1.3 | 13.3 | 6.0 |
| 1.8 Other semi-skilled and unskilled | 12.0 | 3.9 | 6.5 | 1.7 | 9.8 | 4.9 | 5.7 | 3.6 | 11.9 | 1.3 | 19.5 | 6.7 |
| 1.9 Agriculture, forestry, fishing | 27.8 | 12.1 | 14.8 | 2.1 | 45.8 | 6.7 | 81.8 | 58.4 | 9.8 | 0.8 | 13.2 | 0.9 |
| Classification III | | | | | | | | | | | | |
| Number Classified | 3,821 | | 972 | | 236 | | 676 | | 591 | | 1,343 | |
| 3.1 White Collar, professional and supervisory; non-technical (Professional excluding tech; managers and officials excl. processing; clerical) | 17.0 | 26.3 | 30.3 | 49.0 | 14.4 | 26.3 | 5.3 | 13.2 | 16.8 | 34.5 | 13.7 | 13.0 |
| 3.2 Managers and Proprietors in processing enterprisers | 7.6 | 20.3 | 13.7 | 15.2 | 5.1 | 29.7 | 0.7 | 10.8 | 7.4 | 27.9 | 7.2 | 23.6 |
| 3.3 Retailers and related and misc. service workers | 15.0 | 10.3 | 15.4 | 6.6 | 13.6 | 18.2 | 3.3 | 5.3 | 29.3 | 27.7 | 14.7 | 6.3 |
| 3.4 High technical (Professional and high-level technicians) | 8.2 | 22.2 | 10.6 | 20.7 | 3.8 | 10.2 | 1.6 | 6.1 | 7.1 | 4.9 | 11.1 | 41.3 |
| 3.5 Skilled workers | 12.2 | 3.1 | 6.1 | 0.8 | 6.8 | 1.3 | 4.1 | 2.7 | 12.5 | 0.7 | 21.4 | 6.5 |
| 3.6 Artisans in traditional occupations | 4.1 | 0.8 | 3.9 | 0.7 | 1.3 | 2.1 | 0.1 | 0.3 | 7.4 | 0.7 | 5.2 | 1.0 |
| 3.7 Semi-skilled and unskilled manual | 8.7 | 3.7 | 5.0 | 2.4 | 8.9 | 4.2 | 3.6 | 3.3 | 9.6 | 1.4 | 13.4 | 5.9 |
| 3.8 Agriculture, forestry and fishing | 26.9 | 11.6 | 14.4 | 2.1 | 46.2 | 6.4 | 81.1 | 57.5 | 9.3 | 0.7 | 12.8 | 1.0 |
| 3.9 Other misc. (incl. protective services) | 0.4 | 1.7 | 0.5 | 2.6 | - | 1.7 | 0.1 | 0.9 | 0.5 | 1.5 | 0.4 | 1.5 |
| Chi square statistic; on I | 1,353*** | | 216.*** | | 79.[b] | | 260.*** | | 114.*** | | 105.** | |
| on III | 1,427*** | | 239.*** | | 83.[c] | | 198.*** | | 96.* | | 130.*** | |

[a] F = Male heads of households over 40 years of age. S = Students' expectations on "realistic aspirations."

[b] Significant at .104.

[c] Significant at .057.

*** Significant at the .000 level.

** Significant at the .001 level.

* Significant at the .007 level.

Notes concerning relationship between classifications:

(3.1) = The sum of (1.1), (1.2), (1.3) and (1.5) minus technical professionals and a few high-technical included in (1.3)
(3.3) = (1.4) plus misc. service workers who are not included in I at all.
(1.6) - Excludes technical-professional but includes a few high-level technicians from (3.4) and the most highly qualified of the skilled men in (3.5).

tabulations corresponding to the designated sets of marginal distributions. In all except the General A course the associations between fathers' actual and sons' anticipated types of occupations were significant at a probability level of .007 or better, and in all except the commerce school sample on classification III they were significant at a .001 probability level or better. This, however, does not mean that there was no shift between the generation of fathers and at least the hopes and anticipations of their sons. Overall those shifts were very much what we should expect in general direction, though not necessarily in magnitude. The table can stand largely on its own, but a few points are worthy of particular attention.

First, there is a marked shift toward professional ambitions generally and toward higher technical jobs in particular, at both professional and technician levels. The shift in favor of the professional and high-level technician category is not matched by any ambition among the unskilled to become skilled workers; rather it is an expression of ambitions among sons of skilled and semi-skilled men, but especially the former, to rise along technical rather than desk-type traditional white-collar employments in our four-fold categorization. But many youth in the academic as well as the technical courses, and coming from diverse parental backgrounds, also expressed hopes and preferences for technical or engineering careers.

Second, though the students showed some inclination toward hopes for attainment of official or managerial posts in government exceeding their

parents' representation in such positions, still only a very small minority expressed such hopes or preferences. Their numbers are substantially fewer than the proportions who gave government as a preferred employer when asked simply to check preferences with respect to type of employer (including self or family).

Third, much more striking are the ambitions to become business managers or proprietors (other than in retail trade); these ambitions are most prominent, and certainly most unrealistic in relation to parental characteristics, among students in the General A curriculum, though even more of the commerce students expressed similar goals.

Finally, the shift out of agriculture is manifest in all curricula, but especially among students in the General A course. Somewhat surprising in this respect is the drop among students even in the agricultural schools--from 82 percent of fathers engaged in agriculture to 58 percent of students anticipating continuation in such a life. This is despite the fact that the 58 percent includes youth hoping to become agricultural agents or officials as well as those who look forward to farming.

Expectations of becoming a farmer or, in exceptional cases, of becoming agricultural agents or officials, was best explained statistically by the combination of coming from a farming background and studying in an agricultural school. However, from this we must not infer that attendance in an agricultural course was a major causal factor. It seems clear, taking into account

what we have already seen concerning patterns of course preferences and subsequent educational and career anticipations, that the choice of agricultural curriculum is more often effect than cause of the intent of entering into an agricultural career. More interesting is the question as to what combinations of factors may be most conducive to expectations of entering technical and manual occupations at one status level or another--grouped together under the broad category we designated EXPFAB (referring to fabricating or processing activities--i. e., to object oriented types of occupations). Treating this as a dichotomous dependent variable we ran a number of regressions, but with very weak results. There were indeed the expected negative associations with the commerce course and positive associations with the technical course, with metropolitan residence, and with being the son of a technician or skilled worker, but together all of these still explained relatively little. Results with parental education and status variables only are shown in the last column of Table 5-7, which was introduced primarily to check on this and other dependent variables for the effect if any of taking the fathers' versus the sons' reports of father's education and occupational status. Results are negative in that we "explain" virtually nothing with respect to likelihood of expressing an occupational expectation of EXPFAB merely by introducing information on parental status with respect to occupation and education. There is a great deal of play in the system despite the significant associations between parental occupation types and sons'

TABLE 5-7

EFFECTS OF FATHER VERSUS STUDENT REPORTING ON MEASURED ASSOCIATIONS BETWEEN PARENTAL TRAITS AND SELECTED STUDENT CAREER EXPECTATIONS
(SONS OF FARMERS EXCLUDED)

| | | Log YL | EXAM (Dichotomy) | EXPSTA (Cardinal) | EXPFAB (Dichotomy) |
|---|---|---|---|---|---|
| $R^2$ | | .038 | .147 | .039 | .008 |
| F | | 11.557 | 52.251 | 6.974 | 1.312 |
| Intercept | | 1.9379 | .2611 | 3.439 | .2861 |
| | | Regression Coefficients | | | |
| OSTAF | 1 | .1256** | .4634*** | -.8831** | -.0730 |
| | 2 | .0670** | .3506*** | -.1140 | -.0920 |
| | 3 | .0421* | .2504*** | -.3187** | .0066 |
| | 4 | -.0011 | .1383*** | -.0972 | -.0222 |
| | 5 | a | a | a | a |
| | 6 | -.0020 | -.0441 | .0010 | .0382 |
| | 7 | -.0273* | -.0462 | -.1373 | .0406 |
| | 8 | -.0456 | -.0685 | -.1747 | .0443 |
| | N.R. | -.0354 | -.0732 | .1992 | -.0015 |
| FLEVF | 1,2 | a | a | a | a |
| | 3 | .0190* | .1128*** | -.1164 | -.0285 |
| | 4 | .0441** | .1929*** | -.4879*** | .0092 |
| | 5 | .0990** | .2237*** | -.4106* | .0059 |
| | Other, N.R. | .0343 | .0802* | -.0269 | -.0136 |
| $R^2$ | | .031 | .147 | .048 | .010 |
| F | | 9.359 | 52.000 | 8.663 | 1.747 |
| Intercept | | 1.9427 | .3127 | 3.639 | .2980 |
| | | Regression Coefficients | | | |
| OSTAS | 1 | .0811* | .3309*** | -1.3949*** | -.0496 |
| | 2 | .0484 | .1985*** | -.4111* | -.0545 |
| | 3 | .0230 | .1996*** | -.3273** | -.0495 |
| | 4 | .0057 | .0280 | .0221 | -.0622 |
| | 5 | a | a | a | a |
| | 6 | -.0238 | -.1413*** | .1074 | .0331 |
| | 7 | -.0186 | -.0769** | -.0596 | -.0004 |
| | 8 | -.0715* | -.2333*** | -.1044 | -.0433 |
| | N.R. | -.0144 | -.0107 | .1020 | -.0589 |
| FLEVS | 1,2 | a | a | a | a |
| | 3 | .0274* | .1240*** | -.0569 | -.0006 |
| | 4 | .0551** | .2758*** | -.2718* | .0177 |
| | 5 | .1053*** | .3576*** | -.3875* | -.0490 |
| | Other, N.R. | .0372* | .0840** | .0332 | .0943* |

anticipations shown at the bottom of Table 5-6, and noted in our first comment on that table.

## III. Dimension 3: Occupational Status Expectations

The basis for specifying occupational status level has already been discussed in earlier chapters in connection with the use of parental occupational status as a variable in analysis of selectivity of students among course types or with respect to college intentions, and this matter is discussed in Appendix C. There is no need to repeat those discussions here. Furthermore, Appendix F reproduces a study of occupational aspirations among the students in our sample prepared by Yasumasa Tomoda and published in the International Journal of Educational Sciences. That study includes among other things comparisons between dream aspirations and "realistic" status expectations as related to Father's occupational status and to student's class rank which need not, therefore, be repeated here. It incorporates also a comparison between the aspirations of these Japanese students and results of a study in the State of Washington, U.S.A. Among the more startling of the findings was the fact that occupational aspirations of Japanese students from low status backgrounds equalled or even exceeded those from middle-level homes. Careful checks eliminated every possible hypothesis of systematic biases internal to the analysis, including the problem of how to deal with farmers. There can be little doubt that students from the lowest occupational backgrounds who nevertheless gain entry to

upper secondary schools (and in Japan this virtually means also completing that course) are distinctively superior to their social-status brothers both in ability and achievement drive. On the other hand, in this as in other studies of occupational-status expectations it is important to consider likely biases that may be introduced by the fact that a large minority of young people are too vague in their occupational anticipations to provide unambiguous answers that can be classified by status as well as type. A check on the N.R.'s in this respect is best introduced at the start, before going on to discuss those whose responses could be given status ratings.

Non-response Cases on Occupational Status Expectations

The proportions of students who could report unambiguously at least the kind of thing they preferred and anticipated for their adult years was remarkably high in the Japanese sample--however well or poorly the responses may in fact predict the directions these youth will take individually. As we have seen, those proportions ran above 85 percent across all course types. On the other hand, 35 percent of the Japanese students gave answers inadequate for status identification on their "dream" aspirations, and 42 percent gave answers inadequate for status coding on their more "realistic" expectations. Relative to findings for other groups, two fifths is not a particularly high proportion with responses insufficient for identification of status level. Indeed, Lipset, Bendix and Malm (1962) found that close to half of a sample of senior highschool students in the United States had no

specific job plans. But if this is so it should be all the more important and interesting to determine how far and in what ways youth unable to answer questions concerning occupational expectations or "realistic preferences" in other than relatively vague terms differed from those responding more precisely.

In pursuit of this question we ran a number of special regressions and analyzed the N.R. columns in our numerous cross-tabulations. For the most part results were negative; the N.R.'s differed very little from those responding adequately on expected occupational status 20-30 years hence. There were no differences in relation to father's occupational status except for a larger proportion of non-responses on expected occupations (52 percent) among the eight percent who did not give adequate answers with respect to their father's occupations. There was, however, a systematic relationship to the student's ranking of himself relative to his classmates with respect to achievement in school. By class rank from lowest to highest achievement quintile the non-response rates on "realistic" occupational expectations ran 50, 45, 41, 39 and 37 percent. To put this in another way, there would appear to be no presumptive bias in the distributions of students' responses on account of selectivity by parental occupational status, but there may be systematic upward biases in the expected status distributions because of relationships between non-response rates and relative levels of achievement in upper secondary school. There may also be some biases, less easily specified, on account of associations of rates of

non-response with the types of occupations in which fathers were engaged. On classification I (the upper part of Table 5-6) the proportions of students who did not provide answers on expected occupational status was lowest for sons of clerical workers and sons of technicians and highly skilled workers, with 29 percent inadequate responses in both cases; rates of non-response were highest among sons of non-technical professional men and of government administrators and officals, at 42 to 43 percent. For all other parental type categories in classification I the student non-response rates on status expectations were between 31 and 34 percent. The range in response rates was less using classification III on parental type categories: sons of skilled workers had the lowest non-response rates, at 27 percent, but the highest rate was only 37 1/2 percent--for sons of men in the broad non-technical white-collar, professional and administrative category, and among sons of fathers in protective services. In the main it would appear that what we are observing is the tendency of sons of technicians and skilled workers to attend technical schools and to have relatively clearly defined occupational anticipations, along with a tendency to deferred decisions and a lack of special family commitments among sons of wage and salaried men in a wide range of non-manual occupations. As we should expect, it was definitely the General A and agricultural students (farming aside) who were most often unable to make clear statements concerning occupational aspirations or expectations.

In brief, there would appear to be no presumptive bias in the

distribution of students' responses on account of selectivity of response by parental status, and no systematic upward bias is suggested by relationships between specificity of student responses on their occupational expectations and the types of occupations of their fathers. On the other hand, the selectivity of responses in favor of those who rated themselves high in school achievement relative to their classmates, against those who rated themselves low, does indicate an upward bias in the distribution of responses that could be rated on status expectations or aspirations.

Distributions of Status Expectations
by Type of Course Attended

The first block of Table 5-3 gave distributions of occupational status expectations for sons of wage and salaried men and of independent non-farm enterprisers by type of course. The top three status categories were combined; this upper grouping includes not only all professional and higher managerial occupations but also high-level technicians and other sub-professional occupations; it excludes even the most highly skilled manual workers short of unambiguous technician status along with the junior administrative ranks. Status categories 4 and 5 include substantial white-collar and manual overlap, with the real aristocracy of skilled labor in status category 4, the lowest white collar people generally in status category 5. Categories 5 and 6 included mainly skilled workers and farmers, however--along with most of the small retail traders.

In reading the distributions shown in Table 5-3 it should be noted that

non-responses are included; this means that proportions shown for each of the status-expectation categories are minimal figures. Thus even among the General B sons of employees less than half (46 percent) specified future occupational expectations that were coded in status levels 1, 2 or 3; but excluding the non-response cases, the proportion of those responding who anticipated a status of 3 or better was 73 percent. Taking courses in the order in which they appear across Table 5-3, the proportions of coded responses that fell in levels 1, 2, and 3 combined were 73, 47, 29, 39 and 60 for sons of employees; they were 63, 35, 55, 44, and 55 for sons of men in independent or family enterprises. These figures are biased upward in varying degrees but without seriously distorting the rank orders across types of course except for sons of non-farm independent enterprisers in the agricultural courses; this was a small group and was characterized by very high rates of non-response or inadequate response on occupational expectations. Students in the academic general course unquestionably had the highest status aspirations, as we should expect; they were followed by students in the technical courses, regardless of the employment status of fathers. In both General B and General A, there was a notable contrast, however, between levels of aspiration of sons of employees and sons of independent or self-employed men; whether they were in the academic or the non-academic general curriculum the sons of wage and salaried men had the higher status expectations. In all curriculum types except the technical the sons of wage and salaried men had also the lower proportions with inadequate responses on occupational status expectations.

Do farmers' sons and rural youth generally differ substantially from other students in levels of occupational aspiration? Table 5-8 was designed in part to answer that question. For this purpose we present information by single status expectation levels 1 through 5, grouping the remaining cases together. For all curricula combined the sons of farmers unquestionably were less inclined to anticipate top level occupational roles, defining top as either levels 1 and 2 or levels 1, 2, and 3. However, this pattern is largely associated with the high proportion of farmers' sons who attended the agricultural courses. Farmers' sons in rural academic courses were as likely as their non-farm classmates to aim for the highest status level, primarily as professional men. Furthermore, farmers' sons in the rural General A courses were more likely than other youth in those courses to look forward to jobs at the two highest levels. Farmers' sons and rural youth generally did not match urban youth, however, in ambitions to reach a status level of 2 or better. Both selectivity of farmers' sons who pursued the academic general course and differential perceptions of career prospects in the rural as against urban environments are clearly manifest in these distributions.

## Status Mobility Aspirations

That seniors in upper secondary schools should generally anticipate attainment of occupational statuses equal to or above their fathers is to be expected; indeed, if this were not the case there would be cause for grave concern--whether or not there is or should be concern also that many exaggerated ambitions will not in the end be realized. In fact there can be

TABLE 5-8

PERCENTAGE DISTRIBUTIONS OF EXPECTED FINAL OCCUPATIONAL STATUS (EXPSTA) BY CURRICULUM AND RURALITY

| Sub-samples (Matched Father-Son Respondents) | N | % | Expected Peak Occupational Status | | | | | | Percentages | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6, 7, 8 | Above Father's Status[a] | Same as Father's Status | Below Father's Status | Up 2 or More Steps as % All With Fathers in Statuses 3-8 |
| All Curricula | | | | | | | | | | | | |
| Sons of Farmers: | | | | | | | | | | | | |
| Rural | 373 | 100.0 | 5.9 | 8.6 | 19.8 | 34.0 | 11.5 | 20.1 | 70.8 | 11.5 | 17.7 | 47.4 |
| Urban | 161 | 100.0 | 1.2 | 19.3 | 20.5 | 34.8 | 7.5 | 16.7 | 77.7 | 9.3 | 13.0 | 54.6 |
| Others | | | | | | | | | | | | |
| Rural | 370 | 100.0 | 6.5 | 17.3 | 26 5 | 35.7 | 9.2 | 4.9 | 60.7 | 25.8 | 13.5 | 51.2 |
| Urban | 1,456 | 100.0 | 8.3 | 26.0 | 24.9 | 30.4 | 6 8 | 3.6 | 71.4 | 15.7 | 12.9 | 57.3 |
| General B | | | | | | | | | | | | |
| All Respondents | 1,103 | 100.0 | 12.2 | 26.9 | 26.5 | 26.8 | 5.2 | 3.4 | 67·5 | 18 4 | 14.1 | 54.1 |
| Sons of Farmers | | | | | | | | | | | | |
| Rural | 125 | 100.0 | 10.4 | 14.4 | 28.8 | 36.0 | 4.0 | 6.4 | 90.4 | 5.6 | 4.0 | 66 4 |
| Urban | 23 | 100.0 | -- | 17.4 | 47.8 | 26.1 | 4.3 | 4.3 | 91.4 | 4.3 | 4.3 | 73.9 |
| Others | | | | | | | | | | | | |
| Rural | 232 | 100.0 | 9.5 | 24.1 | 27.6 | 28.9 | 7.3 | 2.6 | 58,9 | 28.4 | 12.7 | 49.5 |
| Urban | 650 | 100.0 | 14.3 | 30.9 | 24.3 | 24.5 | 4.3 | 1.7 | 65.7 | 17.4 | 16.9 | 52.2 |
| General A | | | | | | | | | | | | |
| All Respondents | 258 | 100.0 | 2.7 | 9.3 | 25.6 | 39.1 | 11.6 | 11.7 | 67.2 | 18.1 | 14.7 | 58.9 |
| Sons of Farmers | | | | | | | | | | | | |
| Rural | 99 | 100.0 | 4.0 | 9.1 | 22.2 | 34.3 | 13.1 | 17.2 | 73.8 | 12.1 | 14.1 | 54.5 |
| Urban | 2 | 100.0 | | | | | | | | | | |
| Others | | | | | | | | | | | | |
| Rural | 108 | 100.0 | 1.9 | 5.6 | 25.9 | 46.3 | 13.9 | 6.5 | 62.3 | 22.6 | 15.1 | 61.3 |
| Urban | 38 | 100.0 | 2.6 | 23.7 | 21.1 | 28.9 | 7.9 | 15.8 | 55.3 | 26.3 | 18.4 | 43.2 |
| Commerce: | | | | | | | | | | | | |
| All Respondents | 577 | 100.0 | 3.5 | 15.6 | 20.1 | 48.5 | 6.2 | 6.1 | 73.5 | 16.7 | 9.8 | 56.0 |
| Technical: | | | | | | | | | | | | |
| All Respondents | 1,413 | 100.0 | 2.9 | 27.7 | 28.0 | 25.8 | 10.9 | 4.7 | 81 3 | 10.7 | 8.0 | 66.2 |

[a]Father's status according to occupation as reported by father.

no doubt that these youth will be distributed around higher levels than their fathers, and for two reasons; they are all at the least graduates of upper secondary schools whereas a majority of their fathers had no such education, and the Japanese occupational structure as a whole has been shifting upward and will almost certainly continue to do so.

The last four columns of Table 5-8 are directed specifically to the question of the extent of aspirations for upward mobility by curricula and by farm versus non-farm and rural versus urban school environment. Sons of farmers attending the academic general courses and youth attending the technical schools unquestionably had the highest mobility aspirations. Ninety percent of the former and eighty percent of the latter specified occupational goals atleast one level above their fathers, and two thirds or more of these youth looked forward to substantial upward mobility (of two steps or more on our eight point scale). The least ambitious in mobility terms were unquestionably the urban youth in General A courses; this we should expect, since many of them have already selected themselves out of the race in going into this rather than other upper-secondary options. The fact that more youth in the General B course come from comparatively advantaged homes puts a damper if not a ceiling on possible upward mobility, but the last column of Table 5-8 corrects for this in taking as the denominator only those youth whose parental occupational status was 3 or lower, allowing at least for the mathematical possibility of a two-step advance among the generation of sons. Commerce students (almost wholly "urban") clearly

hoped for more upward mobility than characterized non-farm students in either of the general course curricula, but their ambitions for upward movements were modest compared with the hopes and expectations of the technical course youth.

This analysis is carried another step in Table 5-9 for relationships between father's status and son's status expectation for rural and urban non-farm youth in the total sample and in the general curricula. That non-farm sons of men in the two upper status ranks anticipate attaining similar levels more often than do sons of men in any other status category is clear enough, and to be expected; what is striking in this table is that parental status seems otherwise to have no effect an proportions anticipating attainment of levels 1 and 2 among either the rural or the urban non-farm youth, for all courses together or for the general course. This situation is repeated even when we take proportions anticipating attainment of status level 3 or better so far as urban students in the academic general curriculum are concerned, but the shading off is more gradual taking all urban students together and among the youth in rural General B curricula. Once again we see that the most modest absolute ambitions with respect to occupational status tend to be reported most frequently among sons of men in status level 5; these data do not include farm fathers and status 5 refers therefore to skilled manual workers, men in the lowest white collar ranks and proprietors of modest (but by no means the lowest) retail and service enterprises.

It is among sons of independent and family enterprisers, nevertheless,

TABLE 5-9

ANALYSIS OF EXPECTED FINAL OCCUPATIONAL STATUS AMONG SONS OF NON-FARM FATHERS BY RURAL-URBAN RESIDENCE; ALL SCHOOLS AND GENERAL B AND A

| Sub-samples and Father's Status as Reported by Father (FOSTAS) | Percentages With Expected Status (EXPSTA) | | | | Total Number Reporting |
|---|---|---|---|---|---|
| | 1, 2 | 1, 2, 3 | 5 | 5, 6, 7, 8 | |
| All Rural Students | | | | | |
| FOSTAS 1, 2 | 50 | 64 | 3 | 7 | 28 |
| 3 | 24 | 69 | | | 74 |
| 4 | 24 | 39 | 12 | 13 | 67 |
| 5 | 19 | 45 | 21 | 24 | 58 |
| 6 | 15 | 45 | 9 | 15 | 53 |
| 7, 8 | 23 | 45 | 7 | 15 | 84 |
| All Urban Students | | | | | |
| FOSTAS 1, 2 | 53 | 79 | 3 | 4 | 104 |
| 3 | 39 | 64 | | | 250 |
| 4 | 36 | 60 | 7 | 10 | 254 |
| 5 | 31 | 54 | 10 | 14 | 288 |
| 6 | 28 | 57 | 7 | 13 | 237 |
| 7, 8 | 31 | 56 | 8 | 13 | 296 |
| General A, Rural | | | | | |
| FOSTAS 1, 2 | (--) | (--) | (8) | (15) | 1 |
| 3 | -- | 33 | | | 12 |
| 4 | 9 | 17 | 22 | 26 | 23 |
| 5 | 13 | 33 | 33 | 40 | 15 |
| 6 | 7 | 37 | 7 | 11 | 27 |
| 7, 8 | 7 | 39 | 7 | 14 | 28 |
| General B, Rural | | | | | |
| FOSTAS 1, 2 | 56 | 70 | 2 | 4 | 25 |
| 3 | 30 | 77 | | | 60 |
| 4 | 36 | 54 | 5 | 5 | 39 |
| 5 | 23 | 49 | 17 | 20 | 35 |
| 6 | 24 | 52 | 12 | 20 | 25 |
| 7, 8 | 36 | 56 | 9 | 13 | 45 |
| General B, Urban | | | | | |
| FOSTAS 1, 2 | 57 | 80 | 2 | 3 | 85 |
| 3 | 44 | 67 | | | 171 |
| 4 | 43 | 72 | 4 | 5 | 122 |
| 5 | 44 | 69 | 11 | 13 | 112 |
| 6 | 45 | 65 | 3 | 8 | 62 |
| 7, 8 | 45 | 68 | 6 | 7 | 83 |

that the largest net shifts into status levels 1, 2, and 3 were implied. One way of measuring this phenomenon is to convert the distributions on EXPSTA and on OSTAF in Table 5-3 to the proportions of total responding, eliminating the N. R.'s from the denominator. We can then make a direct comparison between proportions of fathers reporting occupations in status levels 1, 2 or 3 (OSTAF 123) with proportions of sons in the same column reporting EXPSTA 123. Among sons of wage and salaried men the percentage net shift into levels 123 when so computed was 11 for the agricultural course, 21 for General B, General A, and commerce. Only the technical-course sons of wage workers, with a net shift percentage of 41, matched or exceeded net shift percentages for sons of independent and family men in any of the curricula. The latter estimates were 42 percent for General B, 24 percent for General A, 34 percent for commerce, and 46 percent for students in technical courses. (All of these figures are of course biased upward because of the exclusion of the N. R.'s from the distributions of student expectations. The reader can easily see what would happen with the opposite bias by comparing the top rows after EXPSTA and after OSTAF as they appear in Table 3-5.)

Contingency Analyses of Association between Background Variables and Status Aspiration

Although our observations thus far suggest only a very limited relationship between parental status and students' occupational status

aspirations, there are nevertheless some important distinctions. A more systematic summarization of simple relationships between student aspirations and parental traits is provided in Table 5-10, which summarizes the chi-square and gamma values in matching cross tabulations taking the students' "realistic" occupational expectations in the first instance, their "dream" levels in the second. It is immediately evident all along the way that the "dreams" bear virtually no relationship to parental status when taken within curricula; it is only in the analyses taking all courses together that significant associations between parental traits and "dream" status show up. Results with respect to "realistic" expectations (EXPSTA) are more complex.

Before going further it should be specified that these analyses exclude all non-response cases on either of the variables in a tabulation. All eight occupational status levels were used on both EXPSTA and parental occupational status. Father's education categories were four, mothers' five (including as fifth a category "miscellaneous" schools which distorts the ordinal measures in the tabulations with mothers' education, reducing the gamma values accordingly, but without any obvious a priori bias in the chi square measure). A priori we should expect positive values on the gamma measures for fathers' occupational status against sons' expectations; we should expect negative values on the gammas for tabulations against fathers' and against mothers' education, since the higher the status expectation the lower its code value, but the higher the educational attainment the higher its code value. The signs are in fact all "right" in the tabulations against

TABLE 5-10

SUMMARY OF CHI SQUARE AND GAMMA VALUES ON ASSOCIATIONS OF "REALISTIC" AND OF "DREAM" OCCUPATIONAL ASPIRATIONS AGAINST PARENTAL TRAITS; ALL STUDENTS AND SAMPLES BY COURSE TYPE

| Course and Variable | Tabulations Against Level of Expected Final Occupation ("Realistic") | | | | Tabulations Against Level of "Dream" Occupation | | | |
|---|---|---|---|---|---|---|---|---|
| | Degrees of Freedom | Chi Square | Level of Signif. on Chi Square | Gamma | Degrees of Freedom | Chi Square | Level of Signif. on Chi Square | Gamma |
| General B Students | | | | | | | | |
| Father's Occupational Status | 49 | 148 550 | .000 | .144 | 49 | 48.053 | NS | .095 |
| "Same Occupation" Set | 21 | 29.605 | .102 | -.120 | | | | |
| Father's Education Level | 28 | 55.375 | .002 | -.155 | 28 | 29.522 | .388 | -.105 |
| Mother's Education Level | 35 | 38.636 | .311 | -.103 | 35 | 47.669 | .077 | -.062 |
| General A Students | | | | | | | | |
| Father's Occupational Status | 49 | 33.968 | N.S. | -.046 | 49 | 53.794 | .299 | .010 |
| "Same Occupation" Set | 21 | 26.454 | .191 | -.304 | | | | |
| Father's Education Level | 28 | 25.278 | N.S. | -.103 | 28 | 21.865 | N.S. | -.213 |
| Mother's Education Level | 35 | 23.731 | N.S. | -.083 | 35 | 28.890 | N.S. | -.047 |
| Agriculture Students | | | | | | | | |
| Father's Occupational Status | 49 | 93.733 | .000 | -.046 | 49 | 35.231 | N.S. | .037 |
| "Same Occupation"Set | 21 | 129.741 | .000 | -.366 | | | | |
| Father's Education Level | 28 | 24.201 | N.S. | .116 | 28 | 24.417 | N.S. | .061 |
| Mother's Education Level | 35 | 23.378 | N.S. | .025 | 35 | 26.036 | N.S. | .013 |
| Commerce Students | | | | | | | | |
| Father's Occupational Status | 49 | 62.002 | .104 | .107 | 49 | 33.535 | N.S. | .013 |
| "Same Occupation" Set | 21 | 34.910 | .030 | -.118 | | | | |
| Father's Education Level | 28 | 43.016 | .036 | -.048 | 28 | 28.543 | .437 | -.008 |
| Mother's Education Level | 35 | 56.558 | .013 | -.130 | 35 | 27.164 | N.S. | -.009 |
| Technical Students | | | | | | | | |
| Father's Occupational Status | 49 | 48.769 | N.S. | -.008 | 49 | 43.040 | N.S. | .053 |
| "Same Occupation" Set | 21 | 54.192 | .000 | -.125 | | | | |
| Father's Education Level | 28 | 42.028 | .045 | -.056 | 28 | 30.832 | .326 | -.044 |
| Mother's Education Level | 35 | 36.244 | .412 | -.056 | 35 | 30.045 | N.S. | .055 |
| All Courses | | | | | | | | |
| Father's Occupational Status | 49 | 534.492 | .000 | .085 | 49 | 156.369 | .000 | .080 |
| "Same Occupation" Set | 21 | 555.684 | .000 | -.364 | | | | |
| Father's Education Level | 28 | 163.395 | .000 | -.132 | 28 | 87.947 | .000 | -.102 |
| Mother's Education Level | 35 | 99.011 | .000 | -.116 | 35 | 58.917 | .009 | -.049 |

father's or mother's education with the exception of students in the agricultural course. In that course, as in General A, the associations between students' occupational status anticipations and parental education are totally insignificant. In all other cases the associations with father's education are significant by a chi square test to atleast the .05 level, but it is only among the commerce students that association with mother's education is of any importance. Associations between parental status and students' occupational status anticipations are nil among the General A and the technical students. They are highly significant, and with the right gamma sign, among students in the General B course and moderately significant, again with the right sign, among the commerce students. Among students in the agricultural curriculum the association is highly significant but with a negative gamma; the higher the parent's occupational status the lower the expressed occupational status expectations of the student in the agricultural course. This reflects distortions of selectivity into the agricultural (and also the General A) streams so far as sons of high status fathers are concerned; interaction between parental status and course type is complex in these cases.

The "Same Occupation" set of categories refer to the student's expressed preferences vis-a-vis following in his father's footsteps; it is therefore quite a different sort of measure from parental status indicators, and we should expect interactive relationships with parental status--hence some complications in the interpretation of gamma signs. The categories in this set are: 1. Would like and expect to follow in father's occupation;

2. Would like to do so but probably cannot; 3. Do not want to but will have to do so: and 4. Do not want to and will not. The overall strong association and negative value on gamma taking all courses together (bottom of the table) clearly says that students with the highest status expectations generally do not wish to follow their fathers' occupations and will not do so, whereas students following their fathers tend to be more modest in occupational status anticipations. This result recurs, with strong chi squares, among students within the technical, commerce, and agricultural courses. Associations are the same in direction, but much weaker, as we should indeed anticipate, among youth in the general curricula. The weak association in General B was predictable because of the generally higher parental status distribution in that course; the weak relationship in General A was to be expected because of the peculiarities noted so many times before of selection into General A as against General B curricula in interaction with parental status.

## Regression Analyses of Determinants of Occupational Status Expectations

Taking a wider view, we may look not only at associations between students' occupational status expectations and their own parental backgrounds and/or types of secondary school curricula, but also at some of the other factors in the environment that may come into play. Equally interesting may be how far status expectations are associated with other aspects of occupational expectations. The former variables include indicators of location

characteristics used many times before; we have chosen for this analysis FREQ-M and SLOW-50 once again. They also include class-room composition indicators: in the present analysis we used CLED-HI (proportions of parents with schooling exceeding secondary levels), and CLO-WC (proportions of parents in non-technical professional, managerial and white collar employments). The latter variables include both educational anticipations and attitudes (college intentions, attitudes toward training in a firm, self-ranking in class) and occupational anticipations proper (type of employer, type of occupation, and anticipated earnings). Tables 5-11, 5-12, and 5-13 summarize the zero-order results in correlations treating EXPSTA as a set of categorical variables, including the variable EXSTA 0 for non-response (or inadequate response) on expected status. In each of these tables the correlations are from matrices run separately for sons of employees and of non-farm independent or family enterprisers. Sons of farmers are not included. Before setting up these tables the initial zero-order correlations were corrected for effects of sample size. We then entered a double plus or double minus (depending on direction of the relationship) for all zero-order correlations that reached standardized values of .200 or better, as a single plus or single minus all that were in the range between .100 and .200.

Once more it may be as well to get the non-response question out of the way first. On Table 5-11, which includes all students regardless of course type, there were no relationships with non-response strong enough

TABLE 5-11

SUMMARY OF VARIABLES ASSOCIATED WITH OCCUPATIONAL STATUS EXPECTATION: ALL COURSES

| | EXPSTA for All Sons of Employees | | | | | EXPSTA for All Sons of Independent and Family Enterprisers | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1, 2, 3 | 4 | 5, 6 | 7, 8 | 0 | 1, 2, 3 | 4 | 5, 6 | 7, 8 | 0 |
| GEN-B | ## | - | - | - | - | + | - | | | |
| GEN-A | | | | | | - | | | | |
| AGRIC | - | | + | | | | - | | | + |
| COMM | — | ## | | + | | - | + | | | - |
| TECH | | - | + | | | | | | | |
| FREQ-M | + | | | | | | | | | |
| SLOW-50 | | | | | | | - | | | + |
| CLED-HI | ## | - | — | | | + | | | | |
| CLO-WC | — | + | ++ | | + | - | | | | |
| FLEVF-1 | | | | | | | + | + | | - |
| 2 | - | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | + | | | | | | | | | |
| 5 | | | | | | | | | | |
| N. R. | | | | | | | | | | |
| OSTAF- 1, 2, 3 | + | | - | | | + | | | | |
| 4 | | | | | | | | | | |
| 5, 6 | | | | | | | | | + | |
| 7, 8 | | | | | | | | | | |
| N. R. | | | | | | | | | | |
| EXAM | ## | - | - | | - | + | - | | | |
| CLASS RANK 1 | + | | | | - | ## | - | | | |
| 2, 3, 4 | | | | | | | ## | | | |
| 5 | - | | | | | - | | | | |
| N. R. | - | | | | | - | - | | | |
| FIRM-T | | + | | | | | | | | |
| LOG YL | + | | | | | + | | | | |
| YL/Y1 | | | | | | | | | | |
| PREF-ME | | | + | | | — | + | | | |
| PREF-GOV | | + | | | | + | | - | | |
| PREF-BIG | ## | | - | | | ## | - | | | - |
| PREF-SMALL | - | | | | | | | | | |
| PREF-OT, N. R. | | | | | | - | | | | + |
| ONEX: W. C, Prof. | + | | | | | | + | - | | |
| Trade, Service | | | | + | | | | | ## | + |
| Manual | | | | | | | | + | - | |
| Agric | | | | | | | | | | |
| N. R. | | | | | + | | | | | |

TABLE 5-12

SUMMARY OF TRAITS ASSOCIATED WITH OCCUPATIONAL STATUS EXPECTATIONS;
SONS OF WAGE AND SALARIED MEN BY STUDENT'S COURSE TYPE

| | EXPSTA 1, 2, 3 | | | | | EXPSTA 4 | | | | | EXPSTA 5, 6 | | | | | EXPSTA 0 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | General B | General A | Agric | Comm | Tech | General B | General A | Agric | Comm | Tech | General B | General A | Agric | Comm | Tech | General B | General A | Agric | Comm | Tech |
| FREQ-M | | + | | ++ | + | - | | | | | | — | — | — | | + | | ++ | | - |
| SLOW-50 | | ++ | | | | | | | | | | + | | | | | — | | | |
| CLED-HI | | + | | | | | | + | | | | — | — | | - | | | + | - | |
| CLO-WC | - | | | — | | | | | | | | ++ | ++ | | | + | | — | | |
| FLEVF-1 | | | | | | | | ++ | | | + | | | | | | | | | |
| 2 | — | | ++ | | | + | - | | | | | | | | | + | + | — | | |
| 3 | | | | | | | - | | | | | | | | | | | ++ | | |
| 4 | + | | | | | | ++ | | | | | ++ | | | | | — | | | |
| 5 | | | | + | | | | | | | | | | | | | | | | |
| OSTAF 1, 2, 3 | | | — | | | | | | - | | - | — | — | | | | | ++ | | |
| 4 | | | — | | | + | | - | | | | ++ | | | | | — | ++ | | |
| 5, 6 | | | ++ | | | | | | + | | + | | | | | | | — | | |
| 7, 8 | | | | - | | | | | | | | | | + | | | - | - | | |
| F-REG | | | | | | | | | | | | — | | | | | | - | | + |
| FY-B | | | — | | | | — | + | | | | — | | - | | + | | ++ | | |
| EXAM | + | | | ++ | + | - | | | | | | | | | | | | | | |
| CLASS RANK 1 | + | | - | | + | | | + | | | | + | — | + | | | | | | |
| 2, 3, 4 | | | ++ | | | | | — | + | | | | | | | | - | | | |
| 5 | — | | | | - | | + | - | - | | | | - | | | | + | | ++ | | |
| FIRM-T | | | | | - | | | | | + | | — | | - | | | | | | + |
| LOG YL | | | | + | | | — | | | | | | | - | | | | | + | - |
| YL/YI | | | ++ | | | | | | | | | | | | | | | | | |
| PREF-ME | | | | | | | | | - | | + | | | + | | | | | | - |
| PREF-GOV | | | | | | | ++ | | ++ | | | | ++ | | - | - | | + | | - |
| PREF-BIG | + | | | + | + | - | + | | | | | | | | | + | | — | | |
| PREF-SM | - | | | | | | | | | | | | | - | | | | | + | |
| ONEX: W.C. | + | — | | + | | | | | | | | ++ | | - | | - | | | | |
| Trade, Service | - | | | | | + | - | | - | | | | | | | | | ++ | + | |
| Manual-Tech | | | | - | | | | | + | | - | | ++ | | | | | | — | |
| Agriculture | | | ++ | | | | | ++ | | | | | | + | | | | | — | |

TABLE 5-13

SUMMARY OF TRAITS ASSOCIATED WITH OCCUPATIONAL STATUS EXPECTATIONS:
SONS OF MEN IN INDEPENDENT AND FAMILY ENTERPRISES
BY STUDENT'S COURSE TYPE

| | | EXPSTA 1, 2, 3 | | | | | EXPSTA 4 | | | | | EXPSTA 5, 6 | | | | | EXPSTA 0 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | General B | General A | Agric | Comm | Tech | General B | General A | Agric | Comm | Tech | General B | General A | Agric | Comm | Tech | General B | General A | Agric | Comm | Tech |
| FREQ-M | | | | - | | | | | | | | | | | | | | | | | - |
| SLOW-50 | | - | | | + | | | | | | | | | | | | + | | | | |
| CLED-HI | | + | + | | | | | | | ++ | | | | | - | | - | | | - | |
| CLO-WC | | - | - | | | | | | | | | | | | | | + | | | | |
| FLEVF | 1 | | | | | + | ++ | | | | | | | | | + | — | | | ++ | |
| | 2 | | | | - | | | | | + | | | | | — | | | | | | |
| | 3 | | | | | | | | | | | | + | | | | + | | + | | |
| | 4 | | | | ++ | - | | | | | | | | | ++ | | | | | | + |
| | 5 | + | | | | | | | | | | - | | | | | | | | | |
| OSTAF | 1, 2, 3 | + | - | | | | | ++ | | | | - | | | | | | | | | |
| | 4 | | | | - | | | - | | | | + | | | | | | | | ++ | |
| | 5, 6 | | | ++ | | | | | - | | | | | | | | | | ++ | | |
| | 7, 8 | | | | + | | - | | ++ | | | | | | | | | | | | |
| FY-N | | | | | | | | | | | | | | | | | + | | | + | |
| SELF-1 | | | | | | | | | | ++ | | | | | ++ | | | | | — | — |
| EXAM | | | + | | ++ | | | | ++ | | | — | | | | | | | | | — |
| CLASS RANK | 1 | ++ | ++ | | | ++ | | — | | | | | + | ++ | | | — | — | | | |
| | 2, 3, 4 | | | | | | ++ | | | + | + | | | | | | + | | | — | - |
| | 5 | | — | | | - | | ++ | | | | | - | | | | | + | | | | |
| FIRM-T | | | | | | | | | | | | | — | | | | | | + | | + |
| LOG YL | | ++ | ++ | + | | | | | | | + | | | | | | - | - | | | - |
| YL/YI | | | ++ | | | | | | — | | + | | | ++ | | + | - | | | | |
| PREF-ME | | — | — | | | — | | + | | | ++ | ++ | | ++ | | | | | | | |
| GOV | | | | | ++ | | | + | ++ | | | - | | | | | | | | | |
| BIG | | ++ | ++ | ++ | | ++ | | - | | | — | | | | | | | | | | |
| SM | | | ++ | | | | | — | | | - | | | ++ | | | | | | ++ | |
| ONEX: W.C. | | | — | | | | | ++ | | | + | — | | | | | | | | | — |
| Trade, Service | | | | — | — | | | — | | | | | + | ++ | | | | | | | |
| Manual-Tech | | | | ++ | | | | | | - | | ++ | | | | | - | | | | |
| Agriculture | | | + | ++ | | | | | | | | | | - | | | | | | | |

to rate a double plus or minus designation. Among sons of employees non-responses tended to be lower in the General B than in the other streams, among those taking examinations than among those not doing so, among students who rated themselves at the top of the class. However, the rates of non-response tended to be slightly higher where large proportions of the parental population were in the white-collar category broadly defined--despite the negative sign on General B. Among sons of independent enterprisers non-response was positively associated with attendance at an agricultural school and with remoteness from urban centers, negatively associated with attendance in a commerce course and with low parental education and preference for employment in a big private firm. Some of these associations have already been noted and those for sons of employees accord with what might be expected a priori. In the case of sons of independent enterprisers there is very little sense to the pattern, however; the main message is in fact the lack of any strong associations.

Looking within course types the most interesting results with respect to non-response rates are among sons of employees in the agricultural curriculum. Among those in agriculture non-response rates were definitely highest where there was the greatest intensity of communication with metropolitan centers (FREQ-M), among sons of relatively educated fathers (compared with others in the agricultural schools), among sons whose fathers held high-status types of jobs and earned high incomes, and among youth who rated themselves low in school achievement. This is a consistent if surprising

pattern; it is confirmed by the strong negative entries in the Agriculture column. Relatively low non-response rates were associated with high white-collar proportions in the class-room (contrasting with the over-all data of Table 5-11), with parental education to grade 8 or 9 and youth schools, with parental status levels 5, 6, and with expectations of entering processing occupations or agriculture. Here we do indeed begin to see a definite pattern with respect to the transition of young people from rural life and agricultural schooling into the economy; it is a pattern of uncertainty and limited information beyond the immediate rural horizon among those youth whose backgrounds might otherwise most strongly encourage them to break away into urban living.

The patterns with respect to correlates of non-response in Table 5-13, referring to sons of independent enterprisers, are spotty, but of particular interest may be those for youth in the commerce curriculum. Here it is the sons of the least educated men who were most likely to lack clear notions about the future. Non-response rates were definitely lower, career anticipations clearer for first than for other sons, for those taking examinations than for those not doing so, for youth ranking themselves in the middle ranges on achievement than for those placing themselves at either extreme, and for youth anticipating managerial and white-collar or professional occupations (excluding trade). Here again the pattern seems to be a meaningful one, not too difficult to interpret, but it does not present as clear-cut and interesting a situation as that displayed among agricultural

students whose fathers work for wage or salary.

Coming back to those who responded on EXPSTA, we may turn back to Table 5-11. This, like the other tables, includes only items that rated atleast a single plus or a single minus against one or another of the EXPSTA categorical variables. Included in the initial matrices but omitted from Table 5-11 on this count were the parental income variables, variables relating to father's and grandfather's type of occupation, and to grandfather's level of education. Among sons of employees the associations with EXPSTA 1, 2, 3 are clear enough. Strongly positive are participation in the General B course, classroom peers from highly educated homes, taking examinations, and interest in employment in a large private enterprise or corporation; also positively correlated, though less strongly, were high parental education and social status, high rank in class, high expected peak income, and specification of the white-collar, managerial, professional category in expected occupation type. Negatively associated most strongly was enrollment in the commerce curriculum and a large white-collar component among parents of class mates.[1] It is no accident that among sons of employees taking all schools together the strongest association with EXPSTA is for enrollment in the commerce curriculum; these are most often the youth training to become clerks and bookkeepers, with modest ambitions to

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[1]It should be remembered that the sorts of occupations selected out within the category ONEX 123 is quite different in composition from the clerkly types of occupations that make for high values on CLO-WC.

get ahead in the more clerkly white collar ranks. Among the sons of independent or family enterprisers the pattern of associations with high status expectations (EXPSTA 123) is in the main just a weak image of what we observed among sons of employees so far as the total sample, for all courses together, is concerned.

Turning to the within-course analyses for sons of wage and salaried men (Table 5-12), the results most worthy of comment are not those under EXPSTA 123, which tend to be a reverse image of the non-response rates already discussed. Rather, it is particularly interesting to look at factors associated with EXPSTA 4 and, especially, EXPSTA 5, 6. Among General B students we begin to get a clear income association coming in on EXPSTA 4; those most likely to specify occupational expectations rated 4 were youth expressing preferences for jobs in government; those least likely to make such choices were youth whose parents had relatively high incomes (negative association on FY-B), and level 4 status expectations went along with low income anticipations, whereas this was not the case among youth anticipating occupations at status level 5, 6.

In some respects the General A and the agricultural course sons of employees evince similar associations with expectation of occupation status 5 or 6. In both cases such anticipations were decidely unlikely where there was relatively ready access to metropolitan centers (FREQ-M), where classmates came from relatively educated homes, where fathers were in high status occupations; they were most inclined to status 5, 6 occupational

expectations where there were large proportions of white-collar parents among classmates. However, in other respects the General A and Agriculture columns under EXPSTA 5, 6 for sons of employees are very different. Among the General A youth associations were positive with anticipating white-collar occupations and, somewhat surprisingly, with high parental education; they were strongly negative with parental income. At the same time, selection of a status 5, 6 occupational anticipation went along with a favorable view of acquisition of skills through training in the firm (the implication of the double negative on FIRM-T). Among employees' sons in the agricultural curricula, by contrast, the specification of an occupational expectation implying status 5 or 6 went along with preference for work in government and for processing rather than white collar activities.

In some ways the most notable thing about Table 5-13, which gives the within-course associations with EXPSTA categories for sons of independent enterprisers, is its lack of any clear relationship to Table 5-12. The most important positive associations with EXPSTA 123 are clearly high rank in class (for students in the general and technical courses), high income anticipations among the general course youth, and a preference for work in big private corporate enterprises, among all except youth in the commerce course, whose anticipations of high status were more often associated with a preference for government employment. It is only among the commerce students in this case that a reasonably strong association

with parental education emerges, or with taking examinations for entrance to higher education. Most of these relationships certainly were not predictable a priori, and they raise many more questions than they answer.

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The pattern of associations with EXPSTA/among agricultural-course sons of independent (non-farm) enterprisers tells very little, but associations with EXPSTA 4 and EXPSTA 5, 6 for that sub-sample is something else. It is very evident from the EXPSTA 4 column that the most lowly sons of hired men who had gained access to secondary education in agricultural courses saw their first step as entry into the government, and their route through higher education. Even though anticipations of ultimate occupational status among these youth remains comparatively modest, their anticipated jump is a big one. Among the agricultural-course sons of independent or family enterprisers who specified occupations at status levels 5, 6 the pattern was very different; in this case associations were positive with parental education, with being a first son, with a high self-assessment on ranks in school, with preference for independent employment in a small firm and with the expectation of going into retailing or service activities. This looks very like a rural trader inheritance pattern, but with the hope and expectation of very substantial increases in income over the life career suggested by the high positive association with YL/Y1, which is the ratio of anticipated peak to first year income. (For General A students that sort

of an income anticipation was associated rather with EXPSTA 123.)[1]

Supplementing the zero-order correlation matrices from which Tables 5-11 through 5-13 were drawn is a set of multiple regressions in which EXPSTA was treated as a cardinal variable. The multiple regressions using as independent variables parental occupation and education only were included in Table 5-7, already introduced in remarks on EXPFAB (expectation of a technical-manual or "object-oriented" type of occupation 20-30 years hence). Table 5-7 indicates that student reports of parental occupational and educational status do slightly better than fathers' reports on these matters when it comes to "explaining" students' status expectations for themselves. However, the differences are negligible, and in either case the coefficient of determination is low. The beta values confirm even after controlling for parental education a relationship we noted earlier; the lowest status expectations (positive beta values in Table 5-7) are found not among sons of the lowest status fathers but rather sons of fathers nearer the middle. This is not due to any confounding of the results by inclusion of farmer fathers: the sons of farmers were excluded from the regressions reported in Table 5-7.

Equations containing not only parental backgrounds but also a number of other variables are presented in Table 5-14 and 5-15 for the sons

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[1] These observations suggest that among the agricultural-course sons of independent enterprisers whose anticipated occupations were coded at level 5 or 6 the actual status anticipations may have been somewhat higher but specification of what the occupation would become in that optimistically bright future did not match the income hopes.

TABLE 5-14

MULTIPLE REGRESSION ANALYSIS OF OCCUPATIONAL STATUS EXPECTATIONS OF SONS OF MEN IN WAGE AND SALARIED EMPLOYMENT

| | All Courses (N = 1,266) | | | | General B (N=396) | | Commerce (N=207) | | Technical (N=584) | |
|---|---|---|---|---|---|---|---|---|---|---|
| $R^2$ | .096 | .125 | .085 | .120 | .074 | .113 | .147 | .196 | .041 | .081 |
| F | 5.984 | 5.679 | 5.219 | 5.408 | 1.360 | 1.490 | 1.515 | 1.431 | 1.148 | 1.614 |
| Intercept | 2.878 | 3.145 | 3.153 | 3.363 | 1.406 | 1.495 | 4.686 | 4.124 | 5.988 | 5.608 |
| Degrees of Freedom | 1.243 | 1.234 | 1.243 | 1.234 | 373 | 364 | 185 | 176 | 562 | 553 |
| Course Types: | | | | | | | | | | |
| General B | a | a | | | | | | | | |
| General A | .820*** | .499* | | | | | | | | |
| Agriculture | 1.195*** | .849** | | | | | | | | |
| Commerce | .772*** | .509*** | | | | | | | | |
| Technical | .424*** | .149 | | | | | | | | |
| Father's Education (FLEVF) | | | | | | | | | | |
| 1. Elementary | a | a | a | a | a | a | a | a | a | a |
| 2. Intermediate (7-9) | -.083 | -.025 | -.054 | -.009 | .167 | .208 | .371 | .350 | -.298 | -.256 |
| 3. Upper Secondary (Middle) | -.046 | .010 | -.007 | .040 | .037 | .089 | .755 | .681* | -.212 | -.219 |
| 4. Jr. College Equiv. | -.183 | -.107 | -.133 | -.073 | -.137 | -.086 | -.051 | -.062 | -.326 | -.263 |
| 5. University | -.071 | -.014 | .021 | .064 | .070 | .195 | -.037 | -.203 | -.047 | .005 |
| Grandfather's Education Set | x | x | x | x | x | x | x | x | x | x |
| Grandfather's Occupation Set | x | x | x | x | x | x | x | x | x | x |
| Father's Occupation Status Set (OSTAF) | x | x | x | x | x | x | x | x | x | x |
| EXAM | | -.351** | | -.369** | | -.044 | | -.310 | | -.319* |
| Preferred Employment Status: ME | | .018 | | .032 | | -.244 | | .481 | | .216 |
| GOV | | a | | a | | a | | a | | a |
| BIG | | -.145 | | -.131 | | -.148 | | .011 | | .026 |
| SMALL | | .094 | | .074 | | .348 | | .309 | | .222 |
| Other, N. R. | | -.016 | | -.004 | | .026 | | .434 | | -.026 |
| FIRM-T | | .026 | | .033 | | .029 | | -.042 | | .052 |
| CLASS RANK: 1 | | -.129 | | -.182* | | -.258 | | .023 | | -.200 |
| 2, 3, 4 | | a | | a | | a | | a | | a |
| 5 | | .354** | | .340** | | .405* | | .259 | | .354* |
| FREQ-M | | | -.004** | -.004** | -.005* | -.005* | -.008** | -.008* | -.005* | -.004* |
| SLOW-50 | | | -.015* | -.012 | -.007 | -.011 | .009 | .007 | — Inapplicable— | |
| CLED-HI | | | -.012 | -.007 | .020 | .022 | .002 | .002 | -.042 | -.037 |
| CLO-WC | | | .009 | .005 | .023* | .023* | -.011 | -.004 | -.029 | -.028 |
| Adding FY-B Father's Annual Earnings with Bonus $R^2$ | .096 | .126 | .085 | .120 | .074 | .113 | .147 | .196 | .044 | .084 |
| Adding FY-B Father's Annual Earnings with Bonus F | 5.729 | 5.532 | 4.994 | 5.272 | 1.300 | 1.447 | 1.438 | 1.380 | 1.166 | 1.636 |

[a]Omitted dummy.

TABLE 5-15

MULTIPLE REGRESSION ANALYSIS OF OCCUPATIONAL STATUS EXPECTATIONS OF SONS OF INDEPENDENT (AND FAMILY) ENTERPRISERS

| | All Courses (N = 585) | | | | General B (N=175) | | Commerce (N=135) | | Technical (N=243) | |
|---|---|---|---|---|---|---|---|---|---|---|
| $R^2$ | .120 | .170 | .108 | .166 | .235 | .312 | .162 | .224 | .073 | .169 |
| F | 3.475 | 3.642 | 3.089 | 3.541 | 2.125 | 2.093 | 1.042 | 0.999 | .826 | 1.439 |
| Intercept | 3.483 | 3.301 | 3.371 | 3.285 | 3.315 | 4.140 | 4.873 | 4.006 | 3.139 | 3.039 |
| Degree of Freedom | 562 | 553 | 562 | 553 | 152 | 143 | 113 | 104 | 221 | .212 |
| Course Types | | | | | | | | | | |
| General B | a | a | | | | | | | | |
| General A | .794* | .706* | | | | | | | | |
| Agriculture | .720 | .667 | | | | | | | | |
| Commerce | .416* | .167* | | | | | | | | |
| Technical | .212 | .043 | | | | | | | | |
| Father's Education (FLEVF) | | | | | | | | | | |
| 1. Elementary | a | a | a | a | a | a | a | a | a | a |
| 2. Intermediate (7-9) | -.388* | -.404* | -.430* | -.442* | -.716 | -.750 | -.312 | -.228 | -.437 | -.469 |
| 3. Upper Secondary (Middle) | -.359 | -.302 | -.406* | -.361 | -.780 | -.723 | -.619 | -.547 | -.405 | -.306 |
| 4. Jr. College Equiv. | -1.135*** | -1.163*** | -1.185*** | -1.266*** | -1.885* | -2.043** | -1.645* | -1.442* | -.562 | -.645 |
| 5. University | -1.529*** | -1.443*** | -1.703*** | -1.590*** | -2.380*** | -2.390*** | b | b | -.990 | -.573 |
| Grandfather's Education Set | x | x | x | x | x | x | x | x | x | x |
| Grandfather's Occupation Set | x | x | x | x | x | x | x | x | x | x |
| Father's Occup. Status Set (OSTAF) | x | x | x | x | x | x | x | x | x | x |
| EXAM | | -.258 | | -.320 | | -.305 | | -.329 | | -.137 |
| Preferred Employment Status: ME | | .552** | | .584** | | .506 | | .834 | | .788* |
| GOV | | a | | a | | a | | a | | a |
| BIG | | .254 | | .252 | | -.122 | | .772 | | .548 |
| SMALL | | .260 | | .224 | | -.269 | | .994 | | .492 |
| Other, N.R. | | .880 | | .993 | | -.071 | | 1.581 | | 2.113 |
| FIRM-T | | .036 | | .040 | | -.046 | | .096 | | .054 |
| CLASS RANK: 1 | | -.458** | | -.442** | | -.464 | | .326 | | -.537* |
| 2, 3, 4 | | a | | a | | a | | a | | a |
| 5 | | .122 | | .143 | | -.188 | | .269 | | .686* |
| FREQ-M | | | -.001 | -.002 | -.001 | -.002 | -.001 | -.001 | -.002 | -.003 |
| SLOW-50 | | | .007 | .017 | .010 | .015 | -.088 | -.074 | — Inapplicable — | |
| CLED-HI | | | -.003 | .001 | -.002 | -.009 | -.007 | -.012 | .020 | .018 |
| CLO-WC | | | .007 | .004 | .003 | -.002 | -.006 | -.011 | .008 | .003 |
| Adding FY-N (Father's Net income) $R^2$ | .120 | .170 | .108 | .166 | .238 | .314 | .163 | .224 | .073 | .169 |
| Adding FY-N (Father's Net income) F | 3.331 | 3.530 | 2.958 | 3.434 | 2.055 | 2.035 | .990 | .958 | .787 | 1.387 |

[a] Omitted dummy.

[b] No cases.

[x] Full set of dummies run but coefficients not shown. Significant items are noted in text.

of employees and of independent enterprisers respectively. In these equations also the sons of farmers are excluded. Students in all types of curricula are included in the regressions across courses, but within-course regressions are reported for the General B, the commerce and the technical streams only. Since the status variable EXPSTA runs from 1 for the highest status to 8 for the lowest, a positive beta coefficient indicates a lowering of status level, a negative coefficient a raising of expected status. Sets of variables for grandfather's education and occupation and for Father's occupational status (as reported by father) were included in all of the regressions but their coefficients are not reproduced; virtually without exception they were non-significant once the sample was divided between sons of wage and salaried and of independent or family enterprisers; the constraints imposed by treatment of EXPSTA as a cardinal variable in an ordinary linear regression blurs such relationships as do indeed exist, evidenced in contingency analyses treating expected status levels as categories.

In the all-course regressions for sons of men in wage and salaried employment, type of course came through strongly enough: General B was unambiguously the course type whose students had the highest occupational expectations, followed by students in the technical curriculum; agriculture students had the lowest specified status aspirations. None of this is new; what Table 5-14 adds to our information on this point is that the coefficients remain significant even when full sets of data on parental status and education are included. They are damped slightly when we add EXAM and rank

in class to the list of independent variables; EXAM, of course, picks up a large part of the category General B. Rank in class, on the other hand, is virtually independent of type of course. Placing oneself in the highest fifth does tend to raise status aspirations (negative coefficients on the "Highest fifth"), but is only marginally significant. Rating oneself in the lowest fifth, on the other hand, carries a strong positive beta coefficient in the all-course regressions, significantly lowering occupational status aspirations. With or without class rank, EXAM, and the preferred employment status variables, FREQ-M is significant at the .01 level; density of communication with the big metropolitan centers seems definitely to raise occupational aspirations of the seniors in Japanese upper secondary schools, though degree of rural remoteness, measured by SLOW-50 is barely significant at the .05 level even in the shorter equation. Adding father's annual earnings (with bonus adjustment) made no difference once the other variables were incorporated in these equations. All the multiple regressions for the full (all-courses) matched sample of sons of employees responding on EXPSTA gave statistically significant results although at the most only an eighth of the variance in EXPSTA taken as a cardinal variable was explained.

The within-course regressions yielded even smaller results so far as statistical significance is concerned, though the longer equation accounted for a fifth of the variance in EXPSTA among employees' sons in the commerce curriculum. FREQ-M was significant and with the expected negative sign throughout, and being in the lowest quintile on self-assessment

in school achievement was unambiguously a damper on occupational aspirations among the employees' sons in the General B and and technical courses, though it made very little difference among the commerce students. The chief surprise in the latter group was the high positive coefficient for youth whose fathers were upper secondary or middle school graduates; controlling for other background traits these youth had much lower status aspirations on the average than did the commerce-course sons of men with primary schooling only.

Table 5-15, which parallels Table 5-14 but now for sons of independent enterprisers, presents quite a different pattern. In the all-course regressions the type of course variables made very little difference, but parental education came through more strongly and consistently; the better educated the father the higher the aspirations of the son. Whereas preference as to employment status had virtually no effect when we were looking at sons of wage and salaried men, the preference for independent activity carries strong positive coefficients in Table 5-15, implying decidedly lower occupational status aspirations. The strongest of the rank-in-class set is now being in the upper fifth, whereas for sons of wage and salaried men the stronger effect came through with respect to placing one's self at the bottom in school performance. And whereas FREQ-M was strong throughout in Table 5-14, for sons of employees, it is of no importance at all in the equations for sons of independent enterprisers. It is worth note that among

the technical-course sons of independent enterprisers self-ranking in class makes a bigger difference in status aspirations than among students in other courses or among technical-course sons of employees; the signs in this case are as they should be, with a negative (higher status) sign on the top rank quintile, a positive (lower status) sign on the bottom rank quintile. In the case of the commerce students, however, we run into a reversal of sign in the top quintile of the class. The academically most self-assured among the commerce-course sons of independent enterprisers show no inclination to seek out higher status occupations than their less academically successful or assured classmates; on the contrary, it is those in the middle in self-ranking who express the highest occupational status ambitions.

Perhaps the most unambiguous implication of all this is that the entire career decision context is very different according to whether a Japanese youth is the son of a salaried man or of an independent (or family) business enterpriser. Under these circumstances one must question just how much the best of occupational prestige scales may mean, however carefully they have been validated or tested for reliability. But that is not by any means the most important facet of the matter. More critical is the fact that a youth's placement in the socio-economic fabric to start with conditions the parameters of his decision-making not only in some hierarchial sense, but in terms of both the bredth and sweep of the range of alternatives open to him and the extent to which special opportunities may either enlarge

or constrain perceptions and the scope for choice in practice. The patterns of relationships that we have observed in the preceding pages show very clearly that these differences are important as well as that they greatly complicate the picture and the problem of more fully understanding what goes on.

## IV. A Digression into Course Preferences and Career Expectations

The importance of tracing some of the relationships among course in which a youth is enrolled, course preferences, and patterns in career anticipations emerges at this point as far more important than might initially have been assumed. Table 5-16 is an attempt to tease out a little evidence along these lines by use of dummy variables that distinguish cross categorizations of course type and course preference. These regressions were run on the adjusted sample for all students responding on occupational expectations fully enough to permit classification not only by type but also by status. In the first half of the table we again took EXPSTA as a cardinal dependent variable. To the right identical equations otherwise are presented with EXPFAB as a dichotomous dependent variable. This table differs from earlier ones also in the variables used (in the fourth equation) to describe class-room composition. In addition to CLED-HI (proportions of fathers with schooling beyond the upper secondary level) we used CLED-LO (proportions with compulsory schooling only), and instead of the very

TABLE 5-16

EDUCATIONAL EXPERIENCES AND PREFERENCES IN MULTIPLE REGRESSION ANALYSIS OF OCCUPATIONAL STATUS EXPECTATIONS; AND ORIENTATIONS TOWARD TECHNICAL AND MANUAL SKILLS

| | | Status Equations (EXPSTA) | | | | | Skill Equations (EXPFAB) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| $R^2$ | | .133 | .150 | .177 | .102 | .186 | .197 | .200 | .010 | .205 |
| F | | 185.860 | 77.037 | 57.957 | 137.193 | 36.467 | 107.629 | 66.738 | 11.988 | 41.151 |
| Intercept | | 3.1115 | 2.984 | 2.809 | 3.844 | 2.831 | .173 | .237 | .312 | .162 |
| Independent Variables:[b] | | | | | | | | | | |
| GEN-B | 1 | | a | a | | a | a | a | | a |
| | 2 | a | .903*** | .675** | | .656** | -.127* | -.125* | | -.132* |
| | 3 | | .457*** | .336** | | .290** | .096** | .099** | | .104** |
| GEN-A | 1 | .956*** | 1.073*** | .636*** | | .565*** | -.129** | -.117** | | -.107* |
| | 3 | | 1.111*** | .625*** | | .553*** | -.034 | -.023 | | -.005 |
| AGRIC | | 1.599*** | 1.727*** | 1.255*** | | 1.198*** | -.084*** | -.067* | | -.035 |
| COMM | 1 | | 1.042*** | .615*** | | .484*** | -.141*** | -.133*** | | -.126** |
| | 2 | .797*** | .680*** | .409** | | .291* | -.153*** | -.150*** | | -.147** |
| | 3 | | .963*** | .520*** | | .390* | -.110** | .103** | | -.098* |
| TECH | 1 | | .740*** | .359*** | | .328** | .384*** | .386*** | | .364*** |
| | 2 | .526*** | .394*** | .158* | | .119 | .184*** | .181*** | | .162*** |
| | 3 | | .979*** | .540*** | | .502** | .099** | .106* | | .083* |
| Class Rank Scale | | | | .1033*** | .1112*** | .1021*** | | -.0056 | -.0211*** | -.0059 |
| Educ. Supplements, etc. | | | | | | | | | | |
| PART-UNIV | | | | .0609** | | .0556** | .0001 | | | .0011 |
| PART-OTHER | | | | .0187 | | .0201 | -.0111 | | | -.0113 |
| FIRM-T | | | | .0315* | | .0300* | -.0074 | | | -.0063 |
| Applications: | UNIV - DAY | | | -.452*** | -.979*** | -.417*** | .014 | -.050** | | .008 |
| | UNIV - NITE | | | -.210 | -.629*** | -.195 | .023 | .047 | | .025 |
| | NONE | | | a | a | a | a | a | | a |
| | N. R. | | | -.129* | -.337*** | -.117* | .015 | .037* | | .015 |
| FREQ-M | | | | | | -.0021* | | | | .0000 |
| EMP-S | | | | | | a | | | | a |
| SELF-S | | | | | | .136* | | | | -.022 |
| FARM-S | | | | | | .081 | | | | -.031 |
| MISC | | | | | | -.127 | | | | -.025 |
| CLED-LO | | | | | | .0013 | | | | .002* |
| CLED-HI | | | | | | -.0028 | | | | .003 |
| CLO-RET | | | | | | .0049 | | | | -.002 |
| CLO-PRI | | | | | | -.0013 | | | | -.001 |
| FLEVS | 1, 2 | | | | | a | | | | a |
| | 3 | | | | | .014 | | | | -.018 |
| | 4 | | | | | .010 | | | | .031 |
| | 5 | | | | | -.290** | | | | -.019 |
| | N. R. | | | | | .092 | | | | .030 |

[a] Omitted dummy variables.

[b] Subcategories on course types refer to preferences in association with course in which enrolled. These are as follows:

- GEN-B 1. In and prefer GEN-B
- GEN-B 2. In GEN-B, prefer Commerce course.
- GEN-B 3. In GEN-B, prefer some other course (not Commerce); most of these expressed preference for either Technical Secondary or Technical Junior College (T. J. C.).
- GEN-A 1. In GEN-A, prefer either GEN-A or a Commerce course.
- GEN-A 3. In GEN-A, prefer some other course (not Commerce).
- AGRIC. In Agricultural course, regardless of preference.
- COMM 1 In and prefer Commerce course.
- COMM 2 In Commerce, prefer General course.
- TECH 1. In and prefer Technical course (incl. prefer T. J. C.).
- TECH 2. In Technical course, prefer General course.
- TECH 3. In Technical course, prefer some other course (not General).

unsatisfactory variable CLO-WC used in earlier equations we used CLO-RET and CLO-PRI referring respectively to proportions of fathers engaged in retail trade and related activities and to proportions of fathers in agriculture, forestry and fishing (which is in fact almost but not quite confined to agriculture). Finally, the examination variable was broken down into a set which distinguished the small group taking examinations for night school, and we added some variables concerning attitudes toward other ways of supplementing one's education or acquiring skills.

First it will be well to concentrate attention on the set of variables for course type in which enrolled and preferred, and on their relation to level of occupational status anticipations. The fact that all the coefficients are positive demonstrates from the start what indeed was to be expected; General B students who have no reservations about their preference for that course have definitely the highest occupational status aspirations. But other General B students are not necessarily the most ambitious or optimistic with respect to their eventual occupational status. In fact the technical course students who expressed the wish that they had had the General B course had the highest status aspirations of any group other than the satisfied General B students, followed closely by General B youth who wished they had had a technical education. Students in the agricultural curricula definitely had the lowest occupational status aspirations, followed by General A students (whatever their preferences) and by commerce students

who were where they wanted to be. Very generally preference for the commerce course goes along with high positive beta values in the equations for EXPSTA; thus even among the General B students a preference for the commerce course is associated with a substantial dampening effect on status aspirations, as is the case among technical-course students looking toward commerce as well. The cross-cutting of status and earnings aspirations in the agricultural and commercial domains is unambiguously at play here. Adding other variables, as in the second and fourth equations, modifies the coefficients on the course preference-and-type set, reducing the differences among them somewhat, but it does not alter the basic pattern. Rank in class treated as a cardinal variable has a high significant positive association with EXPSTA, as we should of course have anticipated from earlier observations; the sign is positive because both EXPSTA and class rank are scaled with the top taking a value of 1, with rising scale values for declining status or class rank.

In an equation with nothing else except rank in class, there is a systematic monotonic relationship on the examination set, from the highest status anticipations for youth taking examinations for university through those taking examinations for night school only, to those not responding on examinations, to those definitely not interested in post-secondary education (the omitted dummy). The pattern persists with other variables in the equation, but only the university examination variable remains highly significant in its contrast to the non-college category as related to

occupational status expectations. The positive coefficients on the three variables relating to educational supplements imply that attitudes favoring such supplementary education or training tend to be associated with low occupational status aspirations. This is a matter to which we will return; it was introduced in Table 5-16 in anticipation of discussions in Chapter VI.

On the right hand half of Table 5-16 we are returning to a different dimension of occupational anticipations; in the present instance the likelihood that a young senior in Japanese upper secondary school will look forward to a career in technical-manual activities or, to repeat once again, in object-oriented occupations. Because this is indeed a different dimension from EXPSTA and not just a cruder sort of status specification, we should not expect any close relationship between the coefficients at the left and those in the four equations at the right. Indeed, self-ranking among class mates and examination behavior have virtually no impact in the analysis of EXPFAB once variables on course type and preference are included. Neither, for that matter, are any of the other variables important. We can concentrate attention, therefore, solely on the course type-and-preference set. General B students who are where they want to be now fall nearer to the middle; they are neither the most nor by any means the least oriented toward technical-manual employments. The highest positive betas are among technical course youth to be sure--especially those who are in the technical stream and are glad of it, less so among those technical-course youth who express preferences for commerce and other

miscellaneous courses; this third group of technical students is in fact in almost exactly the same position on EXPFAB as those General B students who wish they had taken a technical course (most of those in GEN-B-3). The strongest disinclinations to technical or object-centered occupations are evinced among the students in commerce courses and general course students with leanings toward the commerce curricula. The fact that the core of the academic general students are on a middle ground is a highly important feature of the Japanese situation today and the ease with which a Japanese labor force had been created for and adapts to rapid technological-economic change.

## V. Dimension 4: Earnings Expectations

The importance of earnings expectations in theories of human investment decisions and the key place of observed earnings data in empirical studies of investments in human resource formation is hardly open to question, although there are of course numerous attacks on these efforts--attacks by both friendly critics who would improve them or modify the ways in which they are used and by not-so-friendly critics some of whom seem to have a deep aversion to virtually all money measures. However, there have been few attempts to test in any direct way the relationships between earnings expectations and related intentions or behavior. The empirical tests of human capital theory, if they can be called tests in this sense at all, have been almost totally behavioral in the narrowest sense, based as they have

been on published data relating to labor markets and costs of education. In Chapter IV we attempted to get some small leverage on this question using earnings expectations data directly. The results were mixed. For some categories of students in some types of educational institutions there was indeed a significant association between taking examinations and the size of differentials in perceived future earnings associated with university education as against termination of formal education with the completion of upper secondary school. But for some categories in our samples such associations were negligible.

In the present chapter we take the analysis of Chapter IV concerning income perceptions and the college or non-college choice as a background, without repeating what was found there. Moreover, we defer examination of the anticipated earnings path through time, and its learning correlates, to Chapter VI. Here we will look at earnings data in a limited way, more as part of the delineating of the multi-dimensional occupation matrix than as a key component (which it must be) in human investment decisions per se. Here we are asking, in other words, what factors are associated with higher or lower anticipated earnings looking into the relatively long future, referring only incidentally to the topic that occupied us earlier and must again--that is, the differentials in earnings expectations in their relationship to educational and occupational choice.[1] Throughout the immediately following tables and

[1]We are limited in what can be done in this latter respect anyway because we have no evidence concerning how respondents viewed earnings prospects in one as against another occupational option.

discussion the anticipated income variable used will be earnings anticipated 20-30 years hence by the individual, taking the college or the non-college responses according to whether the respondent was taking examinations for entry to/a full-time post-secondary institution or was not doing so. Although the adjective is not strictly speaking correct, we will refer to these as "peak earnings expectations."

## An Over-view of Determinants of Earnings Expectations: Adjusted Sample for all Courses

As Table 5-7 showed, regressions run simply on father's occupational status and education did very little to explain either variance in earnings expectations or in EXPFAB; they did much better in predicting the likelihood that a youth would take examinations for entry into institutions of higher education. Much more relevant with respect to anticipated earnings were variables relating to location, classroom socio-economic composition, and other dimensions of the students' career expectations and preferences. A summary over-view of these variables is provided in Table 5-18, which includes beta coefficients at the left, t values of those coefficients at the right. The first two equations in Table 5-18 are identical except that in the first column the dependent variable is taken in the raw form; in the second column, as in columns three and four, it is in logarithmic form, which works slightly more successfully. This is one of the easier tables to read.

First of all, differences among curricula are of relatively minor

TABLE 5-18

MULTIPLE REGRESSION ANALYSIS OF PEAK INCOME EXPECTATIONS, ADJUSTED SAMPLE FOR ALL STUDENTS

| Dependent Variable | YL, RAW | Log (YL) | | YL, RAW | Log (YL) | |
|---|---|---|---|---|---|---|
| $R^2$ | .149 | .176 | .158 | | | |
| F | 16.509 | 20.075 | 39.969 | | | |
| | Regression Coefficients | | | T Values | | |
| Intercept | 89.999 | 1.923 | 1.9648 | 11.00 | 64.07 | 95.38 |
| FREQ-M | .108 | .0005 | .0004 | 3.93 | 4.83 | 4.51 |
| SLOW-50 | -.355 | -.0015 | -.0016 | -2.61 | -2.98 | -3.36 |
| CLED-HI | .563 | .0021 | .0023 | 3.82 | 3.95 | 4.58 |
| CLO-WC | -.623 | -.0024 | -.0028 | -3.47 | -3.69 | -4.90 |
| GEN-B | a | a | | a | a | |
| A | 7.372 | .0122 | | 1.94 | 0.88 | |
| AGRIC | 15.651 | .0517 | | 2.99 | 2.70 | |
| COMM | 11.089 | .0401 | | 2.85 | 2.81 | |
| TECH | 0.879 | .0042 | | 0.23 | 0.30 | |
| Class Rank 1 (High) | 16.847 | .0595 | .0576 | 6.00 | 5.77 | 5.60 |
| 2 | -0.220 | .0035 | .0026 | -0.09 | 0.38 | 0.29 |
| 3 | a | a | a | a | a | a |
| 4 | -4.446 | -.0165 | -.0148 | -1.66 | -1.69 | -1.50 |
| 5 (Low) | 8.676 | .0232 | .0233 | 3.07 | 2.24 | 2.25 |
| N. R. | 6.727 | .0276 | .0332 | 1.54 | 1.72 | 2.07 |
| Exams for: | | | | | | |
| DAY UNIV. (or Coll.) | a | a | a | a | a | a |
| NIGHT UNIV. (or Coll.) | -21.051 | -.1046 | -.1075 | -3.91 | -5.29 | -5.64 |
| NONE | -26.153 | -.1153 | -.1226 | -8.63 | -10.37 | -13.90 |
| PART-U | -0.258 | -.0021 | | -0.33 | -0.72 | |
| PART-O | -1.528 | -.0052 | | -1.68 | -1.56 | |
| FIRM-T | 3.239 | .0085 | | 4.76 | 3.41 | |
| ONEX: W. C. | a | a | a | a | a | a |
| Trade, Svc. | 9.235 | .0259 | .0121 | 1.95 | 1.48 | 1.24 |
| Manual-Tech. | 4.060 | .0125 | -.0159 | 0.99 | 0.83 | -1.77 |
| Agric, etc. | 0.935 | .0039 | -.0003 | 0.12 | 0.14 | -0.03 |
| Other, N. R. | 7.471 | .0143 | -.0134 | 1.11 | 0.58 | -0.59 |
| EXPSTA | -2.666 | -.0092 | -.0062 | -2.86 | -2.68 | -1.91 |
| PREF-ME | 30.697 | 0.1111 | .1184 | 11.29 | 11.13 | 11.93 |
| GOV | a | a | a | a | a | a |
| BIG | 18.876 | 0.0738 | .0737 | 6.47 | 6.90 | 6.89 |
| SMALL | 14.216 | 0.0485 | .0478 | 4.44 | 4.13 | 4.07 |
| OTHER, N. R. | 39.283 | 0.1317 | .1325 | 5.04 | 4.60 | 4.61 |
| Parental Background Sets FLEVS, OSTAS, SBE, FREG | x | x | | x | x | |

[a]Omitted dummy variables.

importance so far as associations with peak earnings expectations are concerned once the other characteristics listed in Table 5-18 are incorporated in the regression. What may be surprising, though in fact it is entirely plausible on realistic grounds, is the fact that controlling for other things the General B students had the lowest earnings anticipations, the agriculture students, followed by those in the commerce courses, had the highest. More important than type of curriculum per se were location and class composition. The more urban and indeed metropolitan the school's location the higher the students' perceptions of peak earnings, and conversely when the school was located in a comparatively remote rural community. At the same time, the greater the proportion of parents with better than secondary education the higher the earnings anticipations, the greater the proportion of white-collar men among parents of classmates the lower the anticipated peak earnings. Students rating themselves in the top fifth in relative school achievement (who were in fact less than a fifth of the student bodies) had substantially higher earnings perceptions and expectations than any others. However, associations between earnings anticipations and self-assessments on academic rankings were definitely not monotonic; students rating themselves academically at the bottom set their income sights higher than youth in the middle. The examination series came through strongly and in monotonic order so far as significance measures are concerned. On the other hand, those expressing no interest in opportunities for learning or training on the job had much higher images of their future earnings prospects than

did youth favoring such training or expressing readiness to undertake it in the event they did not manage to go on to university. Differences in earnings expectations associated with differences in types of occupation anticipated were negligible relative to the variance within occupational types. However, as we saw in another context in Chapter IV, those who expressed interest in working in the government had by far the lowest earnings anticipations, those looking forward or wishing to be independent enterprisers or members of a family firm had decidedly the highest income anticipations. Once again the contrast between career paths as wage and salaried workers and as independent enterprises or members of a family firm comes out as of critical importance in perceptions and decisions at the crucial points in a youth's educational and labor market experiences. These differences can be crucial regardless of the accuracy or inaccuracy, the justified or unjustified optimism (or pessimism) in the ways these youth perceive their economic futures.

## Analysis of Earnings Expectations within Course Types

At several points in this chapter it has become evident that there may be substantial interactions between types of course and other variables as they relate to students' anticipations of their future occupational careers. Just how some of these matters shape up with respect to peak earnings expectations is the main theme that will concern us in discussing Tables 5-19 through 5-22.

TABLE 5-19

ZERO-ORDER CORRELATIONS BETWEEN PEAK INCOME EXPECTATIONS (LOG YL) AND VARIABLES REFERRING TO CLASS RANK AND POST-SECONDARY CAREER PREFERENCES AND EXPECTATIONS

| | All (Adjusted Sample) | General | | Agri-culture | Com-merce | Tech nical |
|---|---|---|---|---|---|---|
| | | B | A | | | |
| Number in Sample | 4,290 | 1,768 | 526 | 337 | 675 | 984 |
| Mean Yen | 1.9504 | 2.0042 | 1.8661 | 1.9344 | 1.9341 | 1.9159 |
| Standard Deviation | .2275 | .2165 | .2380 | .2494 | .2256 | .2111 |
| Independent Variables | | | | | | |
| Class Rank 1 (High) | .0954 | .0924 | .1839 | .1559 | .0087 | .0990 |
| 2 | -.0102 | -.0371 | .0442 | .0014 | -.0335 | -.0067 |
| 3 | -.0472 | -.0247 | -.1475 | -.0607 | -.0 37 | -.0557 |
| 4 | -.0618 | -.0744 | -.0094 | -.1291 | .0334 | -.0529 |
| 5 (Low) | .0230 | .0462 | -.0257 | .0294 | .0615 | -.0083 |
| Exams for: | | | | | | |
| DAY UNIV. | .2921 | .1925 | .2370 | .1439 | .2771 | .2715 |
| NIGHT UNIV. | -.0284 | -.1066 | .0205 | .0611 | .0209 | .0210 |
| NONE, N. R. | -.2838 | -.1563 | -.2215 | -.1580 | -.2605 | -.2545 |
| FIRM-T | .0891 | .0303 | .0123 | .1826 | .1167 | .0855 |
| ONEX: WC | .1003 | .1303 | .0986 | -.0736 | .009 | -.0216 |
| Trade, Service | .0386 | .0308 | .0033 | -.0610 | .0208 | .1050 |
| Manual | -.0565 | -.0836 | -.0021 | -.1842 | -.0208 | .0268 |
| Agric., etc. | -.0962 | -.1279 | -.0791 | .1922 | -.0104 | -.1225 |
| EXPSTA | -.1306 | -.1202 | -.0589 | .0202 | -.0660 | -.0219 |
| PREF-ME | .1632 | .1449 | .1937 | .2417 | .2169 | .0990 |
| GOV | -.1530 | -.2213 | -.1434 | -.1332 | -.1105 | -.0857 |
| BIG | .0376 | .0380 | .0204 | -.0174 | -.0490 | .0048 |
| SMALL | -.1294 | -.0388 | -.1030 | -.1560 | -.1585 | -.0845 |
| OTHER | .0404 | .0265 | .0448 | -.1062 | .0689 | .0840 |

Table 5-19 presents a zero order matrix of associations of the various dimensions of career anticipations and preferences.[1] In the first column, referring to the entire sample population, in all courses, we see essentially a repetition of the most important of the parallel associations observed in the multiple regressions of Table 5-18, and most of these repeat themselves within course types. Thus class rank behaves essentially as it should except, once again, that those rating themselves at the bottom do not generally have the lowest earnings anticipations; the zero-order coefficients for class rank 5 have positive rather than negative signs not only in the total sample and the commerce curriculum but among the agriculture and the General B students as well. Coefficients come through with positive signs in every case on FIRM-T, which implies, to repeat, that readiness to look to on-the-job training or learning as an important educational experience is associated quite generally with relatively low peak earnings anticipations. Again associations with types of occupation anticipated are small and are not systematic on the whole across courses. Zero order correlations with EXPSTA (cardinal form) are also low; for the agricultural course the sign is even perverse, though insignificant. Coming through strongly again are the positive coefficients on examinations for day university, the negative

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[1] Both for the all-course data and the within-course-type associations the adjusted sample was used, but without correcting the correlation coefficients to standardize for sample size. (The facts necessary to do this are presented with Log YL, not with the raw value of peak earnings expectations.)

coefficients on the non-college educational choice. And reiterated again, overall but most strongly among the commerce students, are the positive relationship between preference for independent activities and earnings anticipations, negative associations between earnings expectations and a preference for government employment or (excepting General B students) employment in a small private firm.

There is comparatively little modification of these relationships when the variables referring to career preferences and occupational expectations are put together in multiple regressions, as is done in Table 5-20. Furthermore, the addition of the rank-in-class set and variables referring to class-room composition and to degree of rural isolation or metropolitalism, as in Table 5-21, improves predictions while leaving the significant coefficients on variables already included in Table 5-20 intact. Throughout the association between peak income expectations and examination behavior continues to be important overall and in the commerce and technical course groups, though it drops to insignificance among the agriculture students when the fuller equation of Table 5-21 is used. High rank in the class retains its importance among the General B and A and the technical students, as before. Some of the coefficients on ONEX take on greater importance when, as in both Tables 5-20 and 5-21, the comparison is with the omnibus white-collar, managerial, non-technical professional category. General B students in that category generally anticipated higher earnings than General B students anticipating technical-manual careers or

TABLE 5-20

WITHIN-COURSE MULTIPLE REGRESSION ANALYSIS OF PEAK INCOME EXPECTATIONS (YL) AS RELATED TO UNIVERSITY EXPECTATIONS AND PEAK CAREER PREFERENCES AND EXPECTATIONS

| | Course Type | | | | | Course Type | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | General B | General A | Agri-culture | Com-merce | Tech-nical | General B | General A | Agri-culture | Com-merce | Tech-nical |
| N | 1,768 | 526 | 337 | 675 | 984 | | | | | |
| $R^2$ | .091 | .133 | .129 | .144 | .108 | | | | | |
| F | 12.46 | 5.599 | 3.404 | 7 946 | 8.395 | | | | | |
| | Regression Coefficients | | | | | T Values | | | | |
| Intercept | 104.580 | 142.696 | 81.413 | 123,086 | 106.224 | 14.48 | 9.28 | 3.58 | 8.49 | 9.75 |
| Exams for: | | | | | | | | | | |
| DAY UNIV | a | a | a | a | a | a | a | a | a | a |
| NIGHT UNIV | -25.987 | -35.371 | 14.587 | -32.834 | -22.444 | -2.75 | -2.27 | 0.43 | -2.67 | -2.34 |
| NONE | -17.901 | -31.380 | -29.962 | -35.224 | -39.095 | -3.06 | -3.72 | -2.49 | -5.16 | -7.54 |
| PART-U | -0.935 | -3.230 | 2.339 | -3.051 | 1.460 | -0.83 | -1.22 | 0.49 | -1.42 | 0.92 |
| PART-O | 0.256 | -7.689 | -0.964 | -0.062 | -1.515 | 0.18 | -2.78 | -0.19 | -0.28 | -0.87 |
| FIRM-T | 2.057 | 2.747 | 6.801 | 4.543 | 2.575 | 1.82 | 1.48 | 2.46 | 2.68 | 1.95 |
| ONEX: WC | a | a | a | a | a | a | a | a | a | a |
| Trade Service | 0.950 | 5.079 | -17.219 | 0.960 | 15.591 | 0.23 | 0.62 | -0.76 | 0.16 | 2.95 |
| Manual | -15.112 | 0.944 | -13.951 | 4.501 | 5.824 | -3.52 | 0.12 | -0.89 | 0.79 | 1.46 |
| Agriculture | -15.861 | -5.575 | 12.597 | 3.980 | -10.344 | -3.55 | -0.95 | 1.29 | 0.52 | -1.81 |
| Other, N. R. | -2.612 | -10.891 | No Cases | 18.155 | -1.282 | -0.28 | -0.47 | No Cases | 1.13 | -0.12 |
| EXPSTA | -5.341 | -2.181 | -1.899 | -4.568 | -0.935 | -3.60 | -0.83 | -0.58 | -1.77 | -0.52 |
| PREF-ME | 38.124 | 30.370 | 31.463 | 34.779 | 21.421 | 9.25 | 4.65 | 2.95 | 4.54 | 3.30 |
| GOV | a | a | a | a | a | a | a | a | a | a |
| big | 26.974 | 19.392 | 15.905 | 10.920 | 13.712 | 6.24 | 2.42 | 1.20 | 1.32 | 2.03 |
| SML | 24.629 | 9.642 | 8.914 | 2.577 | 11.088 | 4.02 | 1.37 | 0.71 | 0.30 | 1.65 |
| Other, N. R. | 37.762 | 63,315 | -36.170 | 56.204 | 45.574 | 3.10 | 2.26 | -0.97 | 2.61 | 3.31 |

TABLE 5-21

WITHIN-COURSE MULTIPLE REGRESSION ANALYSES OF PEAK INCOME EXPECTATIONS (YL) AS RELATED TO TRANSPORTATION INDEXES, CLASSROOM COMPOSITION, RANK IN CLASS, UNIVERSITY EXPECTATIONS AND PEAK CAREER PREFERENCES AND EXPECTATIONS

| | Course Type | | | | | Course Type | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | General B | General A | Agri-culture | Com-merce | Tech-nical | General B | General A | Agri-culture | Com-merce | Tech-nical |
| N | 1.768 | 526 | 337 | 675 | 984 | | | | | |
| $R^2$ | .120 | .195 | .162 | .187 | .129 | | | | | |
| F | 10.34 | 5.300 | 2.630 | 6.517 | 6.161 | | | | | |
| | Regression Coefficients | | | | | T Values | | | | |
| Intercept | 122.695 | 125.026 | 38.208 | 118.646 | 89.835 | 10.60 | 18.27 | 1.15 | 5.81 | 6.72 |
| FREQ-M | -.003 | .121 | .496 | .076 | .084 | -0.06 | 1.19 | 0.54 | 1.17 | 1.79 |
| SLOW-50 | -.813 | -.573 | -.017 | 1.899 | b | -3.67 | -1.85 | -0.05 | 1.65 | b |
| CLED-HI | .491 | .776 | .070 | 3.257 | -.026 | 2.72 | 1.70 | 0.03 | 4.65 | -0.06 |
| CLO-WC | -.915 | -.719 | 3.191 | -1.589 | .231 | -3.41 | -2.07 | 1.66 | -2.04 | 0.38 |
| Class Rank: 1 (High) | 14.494 | 36.489 | 21.027 | -2.327 | 17.766 | 3.17 | 4.40 | 1.98 | -0.29 | 3.56 |
| 2 | -5.147 | 14.586 | 0.550 | -8.467 | 1.042 | -1.29 | 1.93 | 0.06 | -1.34 | 0.22 |
| 3 | a | a | a | a | a | a | a | a | a | a |
| 4 | -6.860 | 4.332 | -10.342 | -6.780 | -2.924 | -1.56 | 0.62 | -0.88 | -1.09 | -0.55 |
| 5 (Low) | 9.696 | 9.235 | 15.253 | 3.229 | 5.012 | 2.17 | 1.34 | p. 34 | 0.44 | 0.84 |
| N. R. | 2.350 | 20.096 | 8.798 | 0.978 | 19.864 | 0.36 | 1.78 | 0.53 | 0.08 | 2.07 |
| Exams for: | | | | | | | | | | |
| DAY UNIV | a | a | a | a | a | a | a | a | a | a |
| NIGHT UNIV | -23.278 | -29.477 | 13.479 | -27.249 | -23.789 | -2.59 | -1.90 | 0.39 | -2.24 | -2.49 |
| NONE | -14.916 | -23.815 | -19.592 | -27.856 | -36.793 | -2.54 | -2.66 | -1.57 | -4.01 | -7.07 |
| PART U | -0.850 | -1.546 | 2.225 | -1.723 | 1.806 | -0.76 | -0.59 | 0.46 | -0.80 | 1.13 |
| PART-O | 0.224 | -7.674 | -0.383 | 0.352 | -2.214 | 0.16 | -2.83 | -0.08 | 0.16 | -1.27 |
| FIRM-T | 1.932 | 2.394 | 6.925 | 3.270 | 3.162 | 1.73 | 1.30 | 2.44 | 1.89 | 2.37 |
| ONEX: WC | a | a | a | a | a | a | a | a | a | a |
| Trade, Service | 2.681 | 7.423 | -18.852 | 3.907 | 16.913 | 0.65 | 0.91 | -0.83 | 0.66 | 3.20 |
| Manual | -13.977 | -1.988 | -15.719 | 4.540 | 7.777 | -3.28 | -0.26 | -1.01 | 0.80 | 1.94 |
| Agriculture | -8.638 | -2.935 | 15.610 | 8.583 | -7.535 | -1.79 | -0.49 | 1.56 | 1.06 | -1.27 |
| Other, N. R. | -2.792 | -9.213 | No Cases | 20.114 | -0.371 | -0.30 | -0.40 | No Cases | 1.27 | -0.04 |
| EXPSTA | -5.041 | -1.538 | -3.321 | -4.526 | -0.371 | -3.41 | -0.60 | -1.00 | -1.78 | -0.20 |
| PREF-ME | 35.375 | 30.317 | 33.609 | 29.519 | 20.474 | 8.58 | 4.73 | 3.12 | 3.82 | 3.17 |
| GOV | a | a | a | a | a | a | a | a | a | a |
| BIG | 24.603 | 17.799 | 19.219 | 10.247 | 12.809 | 5.73 | 2.27 | 1.44 | 1.25 | 1.91 |
| SMALL | 23.870 | 11.241 | 14.315 | -0.223 | 12.101 | 3.93 | 1.63 | 1.13 | -0.03 | 1.81 |
| Other, N. R. | 33.876 | 66.130 | -41.976 | 46.914 | 41.338 | 2.81 | 2.42 | -1.12 | 2.20 | 2.97 |
| Similar equations but without Transport or Class-composition | | | | | | | | | | |
| $R^2$ | .103 | .172 | .150 | .148 | .125 | | | | | |
| F | 10.54 | 5.534 | 2.944 | 5.996 | 7.243 | | | | | |

[a]Omitted dummy.

[b]Inapplicable.

entry into trade and service enterprises. Among students in the technical course, on the other hand, there was a strong positive association between earnings anticipations and anticipation of entry into enterprises dealing directly with the public. The association between earnings anticipations and EXPSTA is significant only among the General B students, a reflection of the importance that must be accorded to contrasts between the situation of sons of wage and salaried men, sons of independent enterprisers, and sons of farmers--together with anticipations concerning employment status. Because of their lesser commitment to professional goals, the associations between EXPSTA and earnings anticipations were slight among youth in the other curricula. (In fact EXPSTA does not even appear in Table 5-22 because it s connections with expected earnings do not reach our cut-off level within any course type when the samples are separated according to whether fathers were employees or independent enterprisers or practitioners.) PREF-ME retains its high significance throughout when compared (as in Tables 5-20 and 5-21) with a preference for employment in government.

In Table 5-22 we have gone back to the separation into two main categories of students, excluding sons of farmers, which enables us to include parental incomes among our variables. We have also used the format of presenting only indicators of high (meaning over .200) and moderate (.100 to .200) coefficients--after corrections downward for sample sizes in each of the curricula. Certain associations are quite pervasive. Notably, for example, youth attending schools with high proportions of well educated

TABLE 5-2?

SUMMARY OF TRAITS ASSOCIATED WITH PEAK INCOME ANTICIPATIONS BY TYPE OF COURSE

| | Sons of Wage and Salaried Men | | | | | | Sons of Men in Independent or Family Enterprise | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All Courses | General B | General A | Agric | Comm | Tech | All Courses | General B | General A | Agric | Comm | Tech |
| Course Type on All-Student Zero-order Matrix | | ++ | - | - | | — | | ++ | - | - | | - |
| FREQ-M | ++ | + | ++ | | ++ | ++ | + | | ++ | | ++ | + |
| SLOW-50 | - | — | — | ++ | | | | | — | | | |
| CLED-HI | ++ | ++ | ++ | | ++ | + | ++ | ++ | ++ | + | ++ | |
| CLO-WC | — | — | — | — | — | — | — | - | — | | - | |
| FLEVF 1 | - | | — | | | | - | | — | ++ | - | |
| 2 | — | - | | | | - | - | — | | - | | |
| 3 | + | | - | | | + | | | ++ | | | + |
| 4 | + | | ++ | | | | | | | | + | |
| 5 | + | + | ++ | | | | ++ | ++ | | | + | |
| N. R. | | | | | | | | | | | | |
| OSTAF 1, 2, 3 | ++ | ++ | ++ | | + | | ++ | ++ | ++ | | ++ | |
| 4 | | | | | - | | | - | | | ++ | |
| 5, 6 | - | — | | | | | - | — | | + | | |
| 7, 8 | — | | — | | | | - | | | | — | |
| N. R. | | | | | | | | | | | | |
| FY-B; FY-N | ++ | ++ | ++ | ++ | + | ++ | + | + | ++ | | ++ | |
| EXAM | ++ | ++ | ++ | + | ++ | ++ | ++ | ++ | ++ | ++ | ++ | |
| CLASS RANK 1 | + | ++ | + | | | | | + | ++ | | | |
| 2, 3, 4 | - | — | | | | | - | - | — | | | |
| 5 | | | | | | | + | + | | ++ | | |
| N. R. | | | | | | | | - | | | | |
| FIRM-T | | | | | | - | + | | | | + | |
| PREF-ME | ++ | ++ | ++ | | ++ | ++ | ++ | | | ++ | ++ | ++ |
| GOV | - | — | | | | - | — | - | — | | | - |
| BIG | | | ++ | | | | | | ++ | — | - | |
| SMALL | - | | — | | — | — | - | | | | - | |
| OT, NR | + | + | | | | + | | | | | | |
| ONEX W.C. Prof. | + | + | | | | | | ++ | | | ++ | |
| Trade, Service | | | — | — | | + | | - | | ++ | | |
| Manual | — | — | | | - | | - | | | | | |
| Agric | | | | | - | | - | - | | — | - | |
| N. R. | | | | | | | | | ++ | — | - | |

++ Adjusted r = positive .100 or more. — Adjusted r = negative (-.100) or more.

+ Adjusted r = .050 to .099. - Adjusted r = -.050 to -.099.

parents do indeed tend systematically to have higher earnings anticipations, but those in the agricultural course are an exception. Quite generally among sons of wage and salaried men, but less consistently otherwise, earnings expectations tend to be lower where the proportion of white-collar fathers is high. Taking examinations is positively associated with earnings expectations throughout, as we should expect both a priori and in the light of the data shown in the school analyses and scattergrams of Chapter IV. Among sons of employees the consistently significant positive associations between parental incomes and anticipated earnings is notable, though the strength of that association is less among the commerce than other youth. On the other hand, for sons of independent enterprisers the strongest positive associations between parental incomes and earnings expectations are for the General A and the commerce populations; correlations on this variable are negligible in the cases of both agriculture and technical students whose fathers were independent. It may be of some interest also that whereas the desire for independence (PREF-ME) is positively associated with earnings expectations among both General B and General A sons of employees, it is not related to earnings anticipations among General B and General A youth whose fathers were engaged in independent or family activities. Associations between earnings anticipations and PREF-ME are strongly positive among the commerce and the technical students regardless of parental employment status.

## VI. Concerning Farmers and Their Sons

Repeatedly in the course of this chapter we have had occasion to examine occupational anticipations among sons of employees and of non-farm independent enterprisers separately, excluding the farmers and their sons from those analyses. There were good reasons for doing this. Farmers and their sons are in some respects a special case. It is time, however, that we directed attention to some of those special aspects of the career anticipations and the decision nexus among farm youth in Japan's upper secondary schools.

A vast literature has grown up compounded of sense and nonsense, concerning relationships among education, agricultural development, economic development generally, migration to urban centers, and urban unemployment. Among common stereotypes has been the notion that education is the villain in migration from rural to urban places and hence in the problem of urban "unemployed school leavers."[1] It has even been argued at the extreme that the curriculum in lower grades in developing countries should emphasize practical agriculture, avoiding too much material on subjects that might make young people restless and prone to explore urban life. Few, however, apply this pseudo-logic to industrially advanced countries, or to Japan or the United States in particular--despite the very heavy rural-urban

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[1] "Leavers" in this context has no connotation of "drop-outs."

migrations of recent years in both of these nations (and in the United States at least the pressing social and economic problems of absorbing this inflood of rural people, white as well as black, into the urban society). Fortunately the extremist advocates of agricultural education in the rural primary schools have been losing out in this argument, not so much at the level of intellectual debate as in the behavior of people who refuse to be boxed in. More pertinent are the debates over how far agricultural as against general schooling affects the decisions of rural youth and of farmers' sons in particular to continue in farming and/or in other agriculture-related activities as against entry into other sectors of economic life. This is an old debate, more than a century old in the United States,[1] but it has been taking on new life recently. Accumulating evidence from many countries is beginning to show that whether educated men shun agriculture or embrace it depends more on the nature of their options in and outside of agriculture than on the particular content of their schooling. Contrast, for example, Argentina with Chile, or the southern with the northern states of Mexico.[2] Knowledgeable Japanese have suggested that many if not most of the more educated among the

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[1] In connection with the early public colleges and universities and the Land Grant Institutions, see Bowman (1962).

[2] For evidence from Africa see Foster (1968) and Anderson, Bowman and Olson (1968). More recent evidence for the United States provides abundant support for this thesis, though it has not to my knowledge been analyzed specifically in these terms.

farmers today entered or remained in farming simply because they were faced with such constrained alternative options after World War II. It is reasonable to assume, and we do indeed have some slight evidence, that among the better educated farmers those who attended agricultural schools are less often discontented with their lot and happier about having their sons continue in farming than are those of the better educated farmers who attended other sorts of secondary institutions.[1] However, the differences by education are slight, and a critical identification problem arises in the interpretation of these associations. How far does attendance at an agricultural school reflect an interest in farming in the first place, how far is such an interest aroused or maintained by attending an upper-secondary agricultural school rather than some other upper-secondary course? And we might add a question that is quite unanswerable at present: what difference would it make if rural youth had readier access to other types of vocational secondary preparation? These are large questions to which the ensuing discussion can contribute only a few minor insights, but even those can be important.

## Agricultural Job Orientation among Sons of Farmers

Progressive withdrawal from agriculture and shrinkage of the agriculturally active population is unquestionably a fact of life in Japan today.

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[1] Bruce Harker's study of Farmer fathers in our sample suggests such a relationship and provides other sorts of evidence concerning the association (or lack thereof) between agricultural education and farmers' communication and innovative behavior (Harker, 1971)

Who leaves agriculture and who stays is not so clear, and neither is the role of agricultural secondary schooling in that process. However, as a first approximation we may use the data on agricultural and related employment from Table 5-6 to derive estimated rates of withdrawal from agriculture among farmers'sons as those rates are related to type of secondary course pursued. Taking the percentages anticipating agricultural careers (including careers as agricultural agents or officials) from the sons' columns and percentages of fathers in this occupational rubric from the fathers' columns we can estimate rates of withdrawal in each case. These will underestimate actual rates of withdrawal of farmers' sons to the extent to which non-farm youth express expectations of making their careers in agriculture or related spheres. However, there are very few such youth, and most of them are in the agricultural courses; the bias, if important at all, is therefore primarily in an underestimation of rates of withdrawal from farming among farmers' sons who enrolled in the agricultural courses. The result of this estimation procedure was to show rates of withdrawal from farming as follows: General B - 86 percent; General A - 85 percent; Agriculture - 29 percent; Commerce - 92 percent; Technical - 93 percent. In proportions of their total student bodies, the highest percentages who were farmers' sons but not intending to enter agricultural occupations were in the General A, closely followed by the agricultural course; this is simply because of the large representation of farmers' sons in both of these courses. Allowing for the relative size of the General A and agricultural streams, however, it turns out that in absolute numbers the largest withdrawals from agriculture are in

fact among youth in the agricultural schools--despite the fact that three fifths of the agricultural students reporting occupational expectations specified agricultural employments. Obviously both the rates of withdrawal by our first computations and the absolute magnitudes of these shifts are of importance. Where the main interest is in relatively aggregative manpower analysis the absolute numbers become important;where interest is primarily in the nature of the educational investment decision and its relation to family backgrounds and career anticipations it is the rates of withdrawal from agriculture that are most relevant.

How far are the students' expressions of their career anticipations associated with father's attitudes in this matter? This is a question on which we have a number of clues. First of all we may ask about the father himself, and factors in his attitudes concerning an agricultural career for his son or sons. In the separate study of farmers, one question we asked was a multiple choice relating to how the father came into agriculture. Two of the options on this question may be particularly relevant: they are, came into agriculture because he liked it, and came into agriculture because he had no alternative. Of the former 57 percent very definitely hoped and anticipated that their sons or atleast one son would become a farmer and another 27 percent took a positive position in this respect (for a total of 84 percent); only a sixth were uncertain or against continuation of their sons in this activity. By contrast, of the farmers who stated they were in farming because of a lack of other options only 27 percent definitely hoped a son would be a farmer and 36 percent were against this.

As might be expected, farmers who hoped that their sons would continue in agriculture, and especially those who hoped very definitely that this would be the case, were more numerous among the students in agriculture than in any other course; in fact 63 percent of the farm fathers of agriculture students took a very strong position on this matter, whereas a third or less of farm fathers of youth in other courses (and only 21 percent of the fathers of youth in the technical course) were so committed.

Associations between fathers' attitudes with respect to agricultural careers for their sons and specification of such careers as preferred or expected by the sons themselves are highly significant. This relationship was tested by a contingency analysis that scaled father's attitudes (a five point scale from definitely yes through uncertain to definitely no, designated SONAG), and a son's attitude scale with respect to following the same or a different occupation than his father's (SAME). It will suffice here to give the sequence of percentages for the two extremes in sons' responses only. Definite yes answers among sons, going from the fathers who definitely wanted sons to continue farming to those who definitely did not, ran as follows: 43 percent, 16 percent, 6 percent, 2 percent and 1 percent. Definite no answers among sons ran 29 percent, 49 percent, 70 percent, 73 percent and 88 percent. Both a close association with parental attitudes and a less agriculturally oriented view among sons are clearly displayed in these figures. There was only a slight association, however, between farmers' hopes concerning

continuation of their sons in agriculture and sons' preferences for independence at the one extreme or for government employment at the other. Roughly two fifths of the sons of farmers preferred independence, with the figure on PREF-ME rising to three fifths in the most agriculturally-oriented groups of both sons and fathers. Preferences for government employment ranged across fathers' hopes that sons would farm from 14 percent where fathers strongly preferred that sons farm to 23 percent where fathers definitely hoped their sons would look elsewhere.

The wealth and income of the parental farm was of course an important factor both in parental hopes that sons would take over the farming enterprise and in sons' inclinations to do so. Zero-order associations on the first of these variables are laid out in the first column of Table 5-23. Since the variable SONAG is scaled from 1 for very definite intentions and hopes that sons will take over the farm to 5 for definite desires that they should not continue in agriculture, negative coefficients are to be looked for if the association between a variable and SONAG is such that it would contribute to the desire to hold sons on the farm. Thus there are the anticipated negative signs on FY-AG and on EQUIP, indicating respectively that the higher the farmer's gross income (FY-AG) from his farm and the more farming equipment he possesses, the greater his inclination to encourage or even press his son to make his life career in farming. Even more clearly, if the farmer states under "AG FUTURE" that he definitely intends to continue in farming he is far more inclined to urge his son into this activity than if he himself has

TABLE 5-23

SELECTED ZERO-ORDER RELATIONSHIPS AMONG BACKGROUND TRAITS, PARENTAL VIEWS, AND STUDENTS' CAREER EXPECTATIONS: SONS OF FARMERS AND THEIR FATHERS*

| | SONAG (Neg) | INHERIT (Neg) | LOG (YL) | EXAM | EXPSTA (Neg) |
|---|---|---|---|---|---|
| INHERIT (Neg) | .387 | xxx | -.086 | .199 | .017 |
| LOG (YL) | -.312 | -.086 | xxx | .128 | -.073 |
| EXAM | .225 | .199 | .128 | xxx | -.115 |
| AG NOW (Past better) | .047 | .103 | -.027 | .041 | -.013 |
| YRS ED | -.066 | -.138 | .051 | .066 | 003 |
| FY-AG | -.249 | -.311 | .169 | -.003 | -.019 |
| EQUIP | -.225 | -.247 | .058 | -.027 | .011 |
| SON - FIRST | .088 | .294 | -.021 | .113 | -.006 |
| AG FUTURE | | | | | |
| 1. Yes, definite | -.428 | -.276 | -.012 | -.118 | .046 |
| 2. Yes, probably | -- | -- | -- | -- | -- |
| 3. Yes, no option | .256 | .116 | .022 | .058 | -.036 |
| 4. No | .224 | .102 | .073 | .024 | .024 |
| CLED-HI | .237 | .288 | .003 | .485 | -.046 |
| GENERAL B | .194 | .245 | .041 | .640 | -.093 |
| GENERAL A | .057 | .143 | -.102 | -.126 | .027 |
| AGRIC COURSE | -- | -- | -- | -- | -- |
| COMMERCE | .124 | .168 | .002 | -.013 | -.041 |
| TECHNICAL | .240 | .290 | -.076 | -.135 | -.023 |
| PREF-ME | -- | -- | -- | -- | -- |
| GOV | .007 | .087 | -.094 | .095 | -.019 |
| BIG | .130 | .191 | .029 | .141 | -.059 |
| SMALL | .064 | .166 | -.115 | -.131 | .047 |

*Matched Father-son sample. N = 1007.

doubts about his own commitment. In fact the proportions of farmers expressing atleast some degree of clear desire that one or more of their sons will take up farming dropped from 89 percent among those who definitely intended to continue for some time themselves to 27 percent expecting to retire or to leave farming for something else.

Returning to the first column of Table 5-23, the positive sign on EXAM and on CLED-HI carries the implication, which we should predict, that sons attending schools where many youth have highly educated fathers and those taking university examinations usually tend to do so with parental blessing, and that blessing usually implies that the son is not expected to come back to operate the farm (or to go into farming otherwise). It is of course to be expected that against SONAG all the non-agricultural courses will carry positive coefficients as compared with agriculture; however, in a zero-order matrix the comparison for each course is with all other courses including agriculture. Agriculture was not specified as a variable in this zero-order matrix, but its zero order correlation with SONAG would have to have been strongly negative to carry all the others into a positive sign. To a lesser extent the same generalization applies to PREF-ME in the set of employment status preferences. We will come back to the large positive coefficient for INHERIT later.

The relationships between father's own intentions to stay with farming and students' responses with respect to following in their father's occupation were unambiguously and very highly associated. Students responding with the

strongest positive replies on SAME ran 37 percent, 15 percent, 2 percent and 7 percent against father's degrees of commitment to continued farming activity on their own account. No responses by students on SAME ran, conversely, 30 percent, 59 percent, 64 percent and 73 percent.

More interesting, however, are the relationships between our measure of equipment and sons' responses with respect either to going into agricultural jobs or, more specifically, to following in their fathers' footsteps as farmers. The equipment variable (EQUIP) is based simply on a count of number of kinds of equipment possessed by the farmer. This was drawn from responses to a check list on the farmers' questionnaire. Because the responses scaled almost faultlessly there was no ambiguity in using a simple count up to five items. (The sixth scaled, but introduced some other problems nevertheless.) Run against the count on EQUIP from zero through 5 the proportions responding "Yes definitely" on SAME rose monotonically from 10 percent at the lowest (zero ownership) equipment level to 44 percent at the top. "No" responses on SAME started at 74 percent and dropped monotonically to 25 percent for an EQUIP value of 5. Proportions anticipating entry into agricultural careers rose monotonically along with the definite Yes responses on SAME, but at higher percentages in each case, reflecting ambitions to enter upon a newer and more rewarding sort of agricultural career or farming enterprise, not identified by the student as following in his father's steps.

Inheritance Expectations and Associated Variables; Sons of Farmers

Closely associated with both farmers' attitudes toward their sons' careers and sons' own anticipations must be the prospect of passing the farm down in the family as the father views it, of inheriting the enterprise as seen from the perspective of the son. That SONAG and INHERIT were in fact associated, even if not in the exact form in which these variables were measured, is clearly enough indicated by the first entry in Table 5-23. Because INHERIT is scaled from low values where the youth expected unambiguously and with certainty to inherit to the highest value where no inheritance was possible (with intermediate positions in between), a positive association between INHERIT and SONAG was to be expected. The second column of Table 5-23 lays out the other zero order relationships with INHERIT. The pattern is very close to that under SONAG, though farm income takes a somewhat higher coefficient and plans of the father to continue actively farming himself comes through less strongly. Being the eldest son in a family with more than one son (not, it is important to note, being an only child) diminishes the likelihood that the youth will anticipate inheritance of the farm, a result that we had not anticipated in the light of the very different indications from earlier tables (most notably in Chapter III) that eldest sons inclusive of only sons were the more likely to enroll in agricultural courses.

The largest of our multiple regression equations taking INHERIT as

the dependent variable is presented in Table 5-25. The most significant variables are clearly those for non-agricultural courses, and most emphatically among these for the technical course, confirming the zero-order relationships. Almost equally important, however, is being the eldest brother, again with a positive sign indicating that such youth are not likely to anticipate inheritance--on the contrary, most of them expect definitely to leave farming. Farm income (FY-AG) and SONAG continue to be highly significant predictors here as in the zero-order analysis. With farm income in the equation EQUIP loses much of its impact; it remains significant, but falls considerably behind several other variables. Among those others are SLOW-50 and AGNOW.

SLOW-50 comes through with a positive sign, indicating that the more remote the locality the less the expectation and readiness of sons to inherit and take over the farm; farms in relatively distant locations in Japan as elsewhere are likely, other things equal, to be poorer, quite aside from the additional fact that youth who go through upper secondary school--and indeed many who do not--want to draw closer to the hub of the society's social, political and economic life. This result is fully in accord with evidence of what has been happening with respect to off-farm migrations not only in Japan but also in the United States on the one hand and many of the less developed nations on the other. It is linked also with the variable AGNOW, referring to how the farmer sees changes in farming conditions--as better

TABLE 5-24

MULTIPLE REGRESSION ANALYSIS OF INHERITANCE EXPECTATIONS; SONS OF FARMERS, MATCHED SAMPLE*

Full equation $R^2$ = .424, F = 32.915 — With course variables only, $R^2$ = .318, F = 116.993

| Independent Variables | Standardized Betas | F Values on Betas |
|---|---|---|
| | Full Equation | |
| GEN-B | 0.281 | 101.518 |
| GEN-A | 0.220 | 64.468 |
| AGRIC | a | a |
| COM | 0.220 | 70.763 |
| TECH | 0.340 | 129.060 |
| AG FUT-1 | -0.062 | 4.367 |
| 2 | a | a |
| 3 | -0.035 | 1.623 |
| 4 | 0.035 | 1.837 |
| INTO-1 | a | a |
| 2 | 0.029 | 1.340 |
| 3 | -0.019 | 0.592 |
| 4 | -0.009 | 0.126 |
| 5 | 0.021 | 0.706 |
| AG NOW (Neg) | 0.058 | 5.654 |
| SONAG (Neg) | 0.130 | 18.982 |
| SON - First | 0.182 | 53.552 |
| EQUIP | -0.047 | 2.911 |
| FEDAG | -0.002 | 0.006 |
| COMMUN | 0.032 | 1.483 |
| AGE | 0.051 | 4.121 |
| SLOW-50 | 0.085 | 8.053 |
| T-TYPE | -0.019 | 0.403 |
| PADDY | 0.033 | 1.858 |
| FY-AG | -0.127 | 19.259 |

[a]Omitted dummies.

*This variable is sealed with the lower values indicating the greater likelihood of inheritance.

now than when he was a young man (scored 1), about the same (scored 2) or worse (scored 3). Understandably, when a youth's father views farming as a gloomy prospect the idea of inheriting the farm, even were it available, will have relatively little appeal, nor will family pressures force the youth into accepting an unwanted inheritance.

Income Anticipations of Farmers' Sons

That rural youth tended to have generally lower income expectations, especially if we exclude university careers, than youth in more urban areas was evident enough from the scattergrams presented in Chapter IV. We are concerned here, however, only with variations in peak earnings expectations among farmers' sons. Those variations are large, and the equations we have used explain only a small fraction of the variance (even in the largest equation only 10 percent). This was anticipated already by the zero-order correlation coefficients shown in the third column of Table 5-23; only the farm income and the dichotomous variable for taking university entrance examinations reached positive values exceeding .100, nor were the "best" negative coefficients, for GENERAL A and PREF-SMALL particularly impressive. Nevertheless, the results of the multiple regression equations are in some respects very interesting. Sons of farmers who studied agriculture clearly anticipated significantly higher peak incomes than did farmers' sons in any of the other curricula except commerce; the commerce youth were almost identical with the agriculture students in their earnings or

income anticipations. These inter-course differences largely evaporate, however (the technical course expected) when variables relating to the farm enterprise and location are added. In fact in the longer equations the most important factors contributing to high earnings anticipation are PADDY, referring to the amount of land in rice paddy, farm income, the expectation of working for the government (a sharp contrast with students from non-farm homes), and taking examinations, in that order. PREF-ME entails lower earnings anticipations on the average than any other employment status preference, despite the fact that where they expect to go into farming the sons of farmers have quite optimistic income anticipations (not shown in these regressions). There can be no doubt but that Japanese farmers who send their sons to upper secondary schools are themselves a diverse group so far as the viability and economic strength of their farming enterprises are concerned. Clearly there are clusters of conditions surrounding the farm situation that foster continuation in farming where the prospects for success in agriculture are good, but quickly discourage such continuation where that option is less than attractive. The fact that higher farm income indicates a better situation on the farm as well as greater ability to finance further education of sons of the family accounts for the fact that there is no relationship whatsoever between taking examinations for entry to university and the family's income from farming. Higher education, however it may be valued in Japan, is not normally regarded as an important investment for youth who will return to agriculture. What we are seeing here is a balancing

TABLE 5-25

MULTIPLE REGRESSION ANALYSIS OF EARNINGS EXPECTATIONS (LOG YL); SONS OF FARMERS, MATCHED SAMPLE*

| Independent Variables | Equation A $R^2$ = .070, F = 5.321 | | Equation B $R^2$ = .100, F = 4.535 | |
|---|---|---|---|---|
| | Standardized Betas | F on Betas | Standardized Betas | F on Betas |
| GEN B | -0.098 | 4.049 | -0.042 | 0.601 |
| GEN A | -0.096 | 7.463 | -0.051 | 1.628 |
| AGRIC | a | a | a | a |
| COM | -0.017 | 0.289 | -0.007 | 0.048 |
| TECH | -0.095 | 7.747 | -0.085 | 4.531 |
| AG FUT-1 | -0.006 | 0.025 | -0.044 | 1.415 |
| 2 | a | a | a | a |
| 3 | 0.034 | 0.999 | 0.038 | 1.282 |
| 4 | 0.077 | 5.884 | 0.073 | 5.285 |
| PREF-ME | a | a | a | a |
| G OV | -0.133 | 16.549 | -0.124 | 14.285 |
| BIG | -0.026 | 0.621 | -0.002 | 0.005 |
| SMALL | -0.115 | 12.163 | -0.087 | 6.759 |
| OTHER | -0.054 | 3.025 | -0.058 | 3.563 |
| EXAM | 0.158 | 14.847 | 0.146 | 12.536 |
| IG (Neg) | -0.048 | 2.318 | -0.059 | 3.616 |
| CLED-HI | 0.005 | 0.013 | -0.018 | 0.138 |
| SONAG (Neg) | | | -0.019 | 0.241 |
| SON FIRST | | | 0.005 | 0.022 |
| INHERIT (Neg) | | | 0.008 | 0.040 |
| EQUIP | | | -0.014 | 0.174 |
| YRS ED | | | -0.010 | 0.092 |
| COMMUN | | | 0.016 | 0.246 |
| AGE | | | -0.032 | 1.018 |
| SLOW-50 | | | -0.039 | 1.085 |
| T-TYPE | | | -0.051 | 1.431 |
| PADDY | | | -0.141 | 21.316 |
| FY - AG | | | 0.142 | 15.423 |

*N=1007. Mean Log (YL) = 4.9118 Geometric mean of YL = ¥

[a]Omitted dummy variable.

out of investment options between the formation of human resources in farmers' sons by formal education, and the continuation and strengthening of investments in and operation of the more viable of the farm enterprises.

## CHAPTER VI

## WORKING, LEARNING AND EARNING THROUGH TIME*

Working, learning and earning are all processes in time; time and its use is of their very essence. We may abstract from this movement to speak of a state of existence, or a situation at a particular time, and we have frequently referred to "decision points," but all such points stand in reality on a moving base, flowing out of the past and stretching forward into the future. Back of the various facets of careers or occupations that we have designated in previous chapters as their main "dimensions" is the over-riding dimension common to them all and binding them together, the dimension of their continuities and discontinuities, their sequences and flows through time. Time emerges as the ultimate constraint on options, the ultimate resource scarcity, the irreversible power and carrier of opportunities and cumulative successes (or failures). In Chapter V we took a leap across time, or rather, at least two leaps. One of these was the leap into the future as the secondary school seniors expressed their hopes and expectations when they should be approaching the age of their fathers. The other,

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*This chapter draws heavily on material from a monograph in preparation under a grant from the Carnegie Foundation.

though instantaneous in "cross-section" was no less a leap in time as men count their lives--to the generation of fathers of these students and what those fathers along with others of their generation present as indicators of what has been and what might be in the years ahead. But we said nothing of the paths from school through post-school working, learning and earning into the mature years of mens lives, whether realized already or still far ahead.

The principal concern of this chapter is to fill in as much as may be possible of the paths from schooling through post-school learning and working toward more distant futures--mainly as perceived by graduates of the upper secondary schools, but also in some small measure as perceived by their parents and as enacted by cohorts of various ages preceding the graduates of 1966. The first section steps back to the stages of first job entry, to examine how those immediate prospects were perceived, and the way those perceptions may have fitted or not fitted into evidence concerning what was taking place in fact. In Section II we will explore some suggestive evidence concerning age-cohort net paths in occupational experiences and concerning how the young people of 1966 perceived their occupational paths; emphasis here is primarily on types of occupations, with only indirect implications concerning employment status and very limited attention to persistence or change in anticipated occupational status levels. A third section is concerned with how both the secondary youth and their parents perceive labor market structures, focusing in particular on such matters

as inter-firm mobility and the place of education at school and at work in the policies of firms toward their workers and the potentials for economic advance. A fourth section examines earnings anticipations as life earnings paths. Because of their focus on types of occupations, the first two sections of this chapter will lend themselves more directly to analysis fitting most readily into the "manpower" view of things, except that throughout the individual rather than the aggregative input-output perspective will be retained. The last two sections derive almost wholly from the neo-classical or libertarian human-investment theories and their implications. Substantial parts of this chapter draw upon work concerning the labor force at large or the parents of the upper secondary students that has been financed by the Carnegie Foundation although the main core of that complementary research is not reproduced here. The emphasis here is predominantly on how secondary-school seniors perceive the future, with only such data from other phases of our research as are essential for perspective on and evaluation of those anticipations.

## I. Entry to the Labor Market

What happens at entry to the labor market is a matter of considerable moment from atleast two, very different perspectives. This is the critical point at which really major shifts in occupational structure are most easily brought about--as new men (and women) begin to work and older people retire. It is also the stage at which young people board the

"career buses" that may take them in one direction or another, at greater or lesser speeds. This is not to say that the first job determines everything thereafter by any means. There may be and in fact are shifts in the early years of working experience for many young people; but even the nature of those shifts and their sequential effects will be in part a function of the first regular or full-time job after leaving school. These early years are the period in which the contacts and communication networks on which many future opportunities rest take their shape, and they are the critical years for selective learning on the job--whether there is substantial learning, and if so where it can lead. We can make no pretense at providing information that could establish evidence on these matters simply from the data collected for the present research, nor do such data exist at a level that would enable us to sort out associations among career development and learning patterns on the one hand, parental backgrounds and types of secondary schools and courses on the other. However, taking the data presented here in the broader context of the Japanese economy and labor-market structure we can atleast derive presumptive indicators of some of these as yet unmeasured and unverified relationships.[1]

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[1]Over-views of formal vocational training at work in Japan, together with information concerning the laws on this subject, are published from time to time in English by the Vocational Training Bureau of the Ministry of Labor. For the most extensive surveys of occupations against schooling see the list of Japanese language documents, Appendix B. Another phase of our research (supported by the Carnegie Foundation) makes use of earnings data from detailed cross tabulations by age, schooling, seniority, industry and

Job Destinations of New Graduates and the Newly Hired

Two sources of data concerning new graduates and newly hired workers provide a sufficient empirical background against which to examine the anticipations of our sample of students with respect to their first jobs on entry to the labor market. These are a special 1961 study of Japanese vocational education at the upper secondary level and information concerning the characteristics of newly hired wage and salaried workers provided in the surveys of employment trends published regularly in the Yearbook of Labor Statistics. We begin with the latter, presented in Table 6-1. We have taken the figures for January to June rather than for the second half of the year because it is in this first half of the year (following graduation in March) that by far the greater number of young people, and of new graduates in particular, find their first employment. Unfortunately the data by level of schooling are not reported separately by sex, and family workers (or other non-wage workers) are excluded; the latter fact cuts proportions in agriculture to a negligible number. However, taking these distributions as they stand there can be no ambiguity about the shift away from manufacturing and into trade between the ninth grade youth and those entering the labor market after completion of upper secondary

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size of firm in an analysis of related aspects of the Japanese labor markets and their implications for learning on the job, including the handling of skill obsolescence.

TABLE 6-1

INDUSTRY AND OCCUPATIONAL DISTRIBUTIONS OF NEWLY HIRED EMPLOYEES, JANUARY TO JUNE 1965

PART A. INDUSTRY DISTRIBUTIONS OF NEWLY HIRED BY EXPERIENCE AND SCHOOLING (BOTH SEXES)

| | Total N | Total % | Covered Industries: Mining | Mfg; Constr. | Trade | Finance Insurance Real Estate | Transport-Communication Utilities | Services |
|---|---|---|---|---|---|---|---|---|
| Inexperienced New Graduates and School Leavers | | | | | | | | |
| Total | 1128 | 100 | * | 54 | 26 | 7 | 9 | 4 |
| 9th Grade | 436 | 100 | * | 79 | 11 | * | 5 | 5 |
| Upper Sec. | 570 | 100 | * | 37 | 37 | 11 | 12 | 3 |
| Other | 122 | 100 | * | 42 | 33 | 10 | 8 | 7 |
| Experienced New Graduates and School Leavers | | | | | | | | |
| Total | 44 | 100 | * | 51 | 29 | 3 | 11 | 5 |
| Other Newly Hired | | | | | | | | |
| Inexperienced | 765 | 100 | 1 | 52 | 27 | 8 | 7 | 5 |
| Experienced | 1670 | 100 | 2 | 52 | 25 | 2 | 15 | 4 |

PART B. INDUSTRY DISTRIBUTIONS OF NEWLY HIRED AND ESTABLISHED MALE EMPLOYEES; TOTALS AND SELECTED AGE CATEGORIES

| | Total % | Covered Industries: Mining | Mfg; Constr. | Trade | Finance Insurance Real Estate | Transport Communication Utilities | Services |
|---|---|---|---|---|---|---|---|
| Newly Hired Males | | | | | | | |
| Total | 100 | 2 | 52 | 23 | 3 | 17 | 3 |
| Under 20 | 100 | * | 60 | 22 | 2 | 12 | 4 |
| 20-24 | 100 | 1 | 45 | 30 | 4 | 17 | 3 |
| 40-49 | 100 | 6 | 58 | 16 | 5 | 14 | 2 |
| Established Males | | | | | | | |
| Total | 100 | 3 | 52 | 19 | 4 | 19 | 3 |
| Under 20 | 100 | * | 65 | 20 | 2 | 9 | 4 |
| 20-24 | 100 | 1 | 54 | 23 | 4 | 15 | 3 |
| 40-49 | 100 | 4 | 51 | 13 | 5 | 24 | 3 |

TABLE 6-1 continued

PART C. OCCUPATIONAL DISTRIBUTIONS OF NEWLY HIRED EMPLOYEES, JANUARY TO JUNE 1965 (BOTH SEXES)

| | Vertical Distributions | | | Horizontal Disbributions | | | | Ratios of Accessions to Separations |
|---|---|---|---|---|---|---|---|---|
| | Inexp. New Grads. | Others Inexp. | Others Exp. | Total % | Inexp. New Grads | Others Inexp. | Others Exp. | |
| Total: Number (thous.) | 1065 | 429 | 887 | 100 | 45 | 18 | 37 | |
| Percent | 100 | 100 | 100 | | | | | |
| Technicians | 1 | * | * | 100 | 69 | 8 | 23 | 3.12 |
| Prof. & Mgr. | 2 | 4 | 3 | 100 | 40 | 25 | 35 | 1.44 |
| Clerical | 33 | 12 | 15 | 100 | 66 | 9 | 25 | 1.67 |
| Sales | 11 | 16 | 11 | 100 | 41 | 25 | 34 | 1.28 |
| Workers in Production, Transport, etc.: | | | | | | | | |
| Mines, Quarries | * | 1 | 1 | 100 | 3 | 12 | 84 | .75 |
| Transport | * | 2 | 11 | 100 | 1 | 9 | 90 | 1.07 |
| Communication | 3 | 2 | 2 | 100 | 61 | 12 | 27 | 1.41 |
| Mfg., Constr. | 43 | 41 | 41 | 100 | 45 | 18 | 37 | 1.21 |
| Unskilled Labor | 5 | 13 | 10 | 100 | 27 | 28 | 45 | 1.21 |
| Service Workers | | | | | | | | |
| Protective Services | * | * | * | 100 | 4 | 24 | 72 | .89 |
| Other Services | 2 | 9 | 6 | 100 | 15 | 38 | 47 | 1.16 |
| Hired Labor in Agric, fisheries, etc. | * | * | * | 100 | 1 | 1 | 98 | 1.06 |

Source: Survey on Employment Trends, 1965, conducted by the Ministry of Labor and summarized in the Yearbook of Labor Statistics for 1965. These data cover the labor-market entry period for school graduates immediately prior to anticipated labor-market entry among the terminal upper-secondary students of our study. All entries in this table are computed from numerical entries in the Yearbook (Parts A and B from Table 20, Part B from Table 19 and Part C from Table 28). The few going as wage workers into agriculture, forestry or fishing are ignored in Parts A and B; they made up only 0.07 percent of the newly hired over the year 1965 but 2.5 percent of all wage and salaried workers in the Labor Force Survey for that year.

school. The figures in Part A of Table 6-1 make this clear. Furthermore, over-all there is little difference between the inexperienced and the experienced newly hired persons in their distributions among industries; the only notable exception is the relatively high representation of transport and communication workers among the experienced but newly hired people, together with their low representation in the industry grouping finance, insurance and real estate. In Part B the data refer to males only and newly hired males are compared with distributions for the established labor force. Taking all ages together there is not much difference but differences do show up when we look at particular age categories. In particular, the newly hired inexperienced youth in the age category 20-24, many of whom are university graduates, are found somewhat less often in manufactures and construction, more often in trade, than the established workers of the same age.[1] The rather surprising proportion of newly hired males 40-49 who were employed in mining reflects the fluctuating situation among firms in that industry, which was on the decline--a fact that is clearly reflected in the last column of Part C of Table 6-1. The occupation that was expanding well ahead of all others is that denoted as "technicians," with three times as many newly hired employees as separations. In absolute terms

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[1] Young females (under 20) more often than males in that age group started out in trade (30 as against 22 percent) or in finance, insurance and real estate (7 as against 2 percent). They were less often in processing (53 percent) or transport (6 percent) than the newly hired males in that age category.

terms this is a small group, but it is a critically important one in the Japanese economic success story nonetheless, and seven tenths of those newly hired were inexperienced new graduates of the upper secondary and higher institutions. No other occupation category depended for its accessions so heavily on new graduates, although clerical employment followed closely behind technicians in that respect and was of course very much more important numerically; in fact a third of all new graduates took clerical jobs. Taking clerical and sales employment together gives us 44 percent white collar, matching the 43 percent entering manufacturing and construction jobs. The latter, as was evident in Part A, drew most heavily in both relative and absolute terms from the graduates of ninth grade so far as new school graduates or leavers are concerned. Youth coming into the job markets from the schools contributed very little to the labor force in transport, in the protective services, or (so far as hired labor is concerned) in any part of the primary sector. The three occupations that depended most on new graduates for their new workers (drawing three fifths or more from that source) were also the three occupations with the highest ratios of new accessions to separations; the occupation that stood lowest in proportions of new workers coming directly from the schools were the occupations with the lowest ratios of accessions to separations. This, of course, is the pattern we should anticipate if the schools and the labor market are reasonably well coordinated and information systems are working effectively. (Whether they are anything like optimal in their

functioning in this respect is of course quite another question.)[1]

For information specifying entry occupations by type of upper secondary institution we go back to a study for 1961, data from which are summarized in Table 6-2, It may be helpful first to look at the bottom of the table, which shows the numbers and proportions of graduates from each type of upper secondary institution who went into family businesses. Those proportions are of course highest among graduates of the agricultural schools, which is the other side of the negligible fraction of new graduates entered after agriculture and so on in Table 6-1, Part C. Agriculture excepted, students in the private schools were more likely than those from the public or national secondary institutions to go into family businesses; this is especially evident for the general curricula. The commerce curricula have the largest fractions going into family businesses, agriculture students excepted.

Looking now at types of occupations, several interesting facts stand out. First, the commerce course excepted there were substantial proportions going into "technical" jobs as defined in this study--covering technicians, skilled workers and most processing jobs except those at the lowest skill levels. Among technical course students the funneling into "technical"

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[1] By industry the proportions of the newly hired who were drawn from inexperienced upper secondary graduates were Mining 5 percent; Manufacturing and construction 16 percent; Trade 32 percent; Finance etc. 49 percent; Transport 23 percent; Service 15 percent.

TABLE 6-2

MAIN ENTRY OCCUPATIONS OF MALE GRADUATES OF FULL-TIME JAPANESE UPPER SECONDARY SCHOOLS BY TYPE OF COURSE; PUBLIC AND PRIVATE SCHOOLS, 1961

| Occupations of Graduates | | General Schools | Agricultural Schools | Commerce Schools | Technical Schools |
|---|---|---|---|---|---|
| | | | Public Institutions | | |
| Total Graduates: | Number | 62,393 | 23,833 | 45,623 | 50,720 |
| | Percent | 100.0 | 100.0 | 100.0 | 100.0 |
| Percentage: | | | | | |
| Technical[a] | | 27.3 | 29.9 | 6.5 | 92.7 |
| Clerical | | 38.4 | 7.2 | 64.6 | 1.4 |
| Sales | | 16.3 | 8.6 | 23.6 | 2.2 |
| Other | | 18.0 | 54.3 | 5.3 | 3.8 |
| | | | Private Institutions | | |
| Total Graduates: | Number | 19,033 | 320 | 26,107 | 17,669 |
| | Percent | 100.0 | 100.0 | 100.0 | 100.0 |
| Percentage: | | | | | |
| Technical[a] | | 28.0 | 21.9 | 11.2 | 88.9 |
| Clerical | | 31.4 | 11.2 | 45.0 | 3.0 |
| Sales | | 23.2 | 11.9 | 33.6 | 4.7 |
| Other | | 17.4 | 55.0 | 10.2 | 3.4 |
| Number of Graduates in Family Business | | | | | |
| National Schools | | 1 | 24 | * | 3 |
| Public Schools | | 2,992 | 10,555 | 3,116 | 948 |
| Private Schools | | 1,343 | 163 | 2,329 | 493 |
| Percentage of Graduates in Family Business | | | | | |
| National Schools | | 3.2 | 64.9 | * | 0.8 |
| Public Schools | | 4.8 | 44.3 | 6.8 | 1.9 |
| Private Schools | | 7.1 | 50.9 | 8.9 | 2.8 |

[a]The translation to "technical" from these documents is misleading; it includes a wide range of technical and manual, but excludes the unskilled and lower skills.

Source: Computed from MEJ 6537, Table 4.

jobs is extreme: overall, taking national, public and private institutions together over 90 percent entered such occupations. If we add "other," which in this case is almost wholly non-farm lower manual or service occupations, 96 percent of the public technical course students are included; this leaves only 4 percent in white collar jobs (8 percent for youth in the private technical courses). The commerce course is almost but not quite as extreme in the other direction, with 88 percent of the public and 79 percent of the private school graduates entering clerical and sales activities in their first jobs from secondary school. There can be no question, as we survey these figures, that the streaming of students in the technical and commerce curricula (whatever its origin) carried over into initial occupational activities. The situation with respect to the agricultural schools is less clear-cut. Roughly half presumably went into agriculture (included in "other"), but 30 percent of those coming through the public agricultural course went into technical jobs as did a fifth of those from the private institutions, and a sizable minority from both the public and the private agricultural schools became clerical or sales workers. Finally, the distribution of entry occupations among terminal general students (which means mainly students from General A courses) was spread over the occupational categories with only a moderate concentration in the clerical jobs. The fact that students in the agricultural schools and many in the general course were from rural areas and were migrating to

more urban places is reflected in these loose relationships as compared with the commerce and technical courses.

Expectations Concerning Entry Jobs

What did the male students of 1966 anticipate with respect to the jobs that they would be taking up very shortly? How far were those expectations influenced by type of course, by parental backgrounds, location, and so on? And overall were their anticipations consistent with the pattern displayed for the previous year by the data of Table 6-2?

Taking the last of these questions first, we may get some clue by a comparison of the entries at the bottom of the first three columns of Table 6-3 with the figures for actual experience of terminal upper-secondary students shown in Table 6-2. Adding clerical and sales together, for the public school graduates the proportions white collar run 59 18, 83 and 4 among the general, agricultural, commerce and technical course students respectively; this is very close to the proportions anticipating white-collar jobs upon leaving school in all cases except among students in the technical curricula; 14 percent of technical-course students who specified first job anticipations anticipated white-collar employment as compared with only 4 percent in such jobs in the follow-up survey at three months after graduation (Table 6-2). This discrepancy is of course reflected in reverse with respect to proportions of technical course students in technical and other manual employments; but even 85 percent of the

TABLE 6-3

DISTRIBUTIONS OF PERCEIVED MAJOR ENTRY JOB OPTION TYPES BY MAJOR PARENTAL OCCUPATION TYPE AND CURRICULUM

| Curriculum and Father's Occupation | From Upper Secondary School | | | From University | | |
|---|---|---|---|---|---|---|
| | White Collar | Manual, Engineering | Agriculture, Fishery, etc. | White Collar | Manual, Engineering | Agriculture, Fishery, etc. |
| **All Curricula** | | | | | | |
| White Collar, etc. | 49 | 49 | 2 | 59 | 40 | 2 |
| Manual, Engineering | 33 | 66 | 1 | 46 | 53 | 1 |
| Agriculture, etc. | 29 | 39 | 33 | 41 | 34 | 24 |
| Chi Square | | | [1,089.494]*** | | | [613.817]*** |
| **General B** | | | | | | |
| White Collar | 63 | 34 | 2 | 65 | 33 | 2 |
| Manual, Engineering | 52 | 46 | 2 | 55 | 43 | 2 |
| Agriculture, etc. | 61 | 24 | 16 | 61 | 28 | 11 |
| Chi Square | | | [72.320]*** | | | [49.912]*** |
| **General A** | | | | | | |
| White Collar, etc. | 66 | 31 | 4 | 67 | 33 | -- |
| Manual, Engineering | 54 | 46 | -- | 59 | 39 | 2 |
| Agriculture, etc. | 50 | 42 | 8 | 53 | 43 | 4 |
| Chi Square | | | [11.411]** | | | [5.742] |
| **Agriculture** | | | | | | |
| White Collar | 26 | 60 | 14 | 53 | 33 | 13 |
| Manual, Engineering | 21 | 69 | 10 | 36 | 47 | 17 |
| Agriculture, etc. | 17 | 24 | 59 | 29 | 24 | 47 |
| Chi Square | | | [109.663]*** | | | [37.161]*** |
| **Commerce** | | | | | | |
| White Collar | 84 | 16 | a | 83 | 16 | 1 |
| Manual, Engineering | 84 | 15 | 1 | 86 | 14 | -- |
| Agriculture, etc. | 76 | 21 | 3 | 78 | 19 | 3 |
| Chi Square | | | [6.743] | | | [6.338] |
| **Technical** | | | | | | |
| White Collar, etc. | 18 | 82 | a | 36 | 63 | 1 |
| Manual, Engineering | 13 | 87 | -- | 30 | 69 | 1 |
| Agriculture, etc. | 12 | 86 | 2 | 33 | 64 | 3 |
| Chi Square | | | [33.659]*** | | | [13.910]** |
| **All Parental Occupations** | | | | | | |
| General B | 60 | 36 | 4 | 62 | 35 | 3 |
| General A | 55 | 40 | 5 | 58 | 39 | 3 |
| Agriculture | 18 | 31 | 51 | 32 | 27 | 41 |
| Commerce | 83 | 16 | 1 | 84 | 15 | 1 |
| Technical | 14 | 85 | | 33 | 66 | 1 |

**Significant at .005.

***Significant at .000.

[a]Under 0.5 percent.

terminal technical-course youth expected to enter technical-manual employments.

Given that the published report for the 1965 follow-up survey did not distinguish agricultural destinations among the category "other," we cannot make any direct comparison of technical-manual destinations where proportions entering agriculture are significant without first making some adjustment. This could be forgotten among the technical and commerce students, but not among terminal students in the general curricula or, of course, among those from the agricultural schools. As a rough approximation, however, it is reasonable enough to compare the technical-manual category of Table 6-3 with an adjusted figure from Table 6-2 that takes the sum of "technical" plus "other" and deducts from it the Table 6-3 percentages for agriculture. When we do this the technical-manual proportions estimated from Table 6-2 are 39 to 40 percent for the terminal general-course students (matching 40 percent of the 1966 general students anticipating technical-manual employments) and 31 percent among the agriculture graduates as compared with 33 percent of our students reporting that they expected to enter technical-manual and related employments. The match is not only close; it is astoundingly so even granted that this way of splitting the agricultural out of other destinations biases the results toward convergence.

Anticipations with respect to first jobs at entry to the labor market from university, or perceptions of what the feasible and preferred option

would be under such circumstances, appear on the right of Table 6-3.[1] Still looking at the summary figures at the bottom of the table it is immediately evident that the chief difference, so far as these broad categories of types of work are concerned, is in the substantially higher proportions of agriculture and technical-course students who specify white collar employments rather than their immediate vocational specializations, in agriculture or in technical fields respectively. Nevertheless, two fifths of the agriculture students gave some form of employment in agriculture for the first job out of university, and two thirds of the technical school students saw themselves in technical-professional or technician employments as the first job after university for themselves or classmates who pursued their education to that level. Among both General B and General A students there are no significant differences between perceptions of broad types of work on first jobs directly out of upper secondary school and upon graduation from university.

The main content of Table 6-3 is the analysis of degrees of anticipated occupational inheritance in these broad definitions of occupational

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[1] It should be noted that the figures in the left half of Table 6-3 referred to all responses to the question concerning the job that a youth expected (if he was going directly into the labor market) or that he thought he could and would obtain were he to seek a job directly upon graduation (supposing that he in fact expected to go on to higher education). In fact there were of course relatively high non-response rates on direct-entry first jobs among youth fully expecting to go on to higher education, and relatively high non-response rates among the terminal students on the parallel question, referring to first jobs expected or that might be expected upon graduation from university.

type. The closest associations are of course to be observed when the data are not broken down by type of upper-secondary curriculum. Within course types the closest associations were for the General B and the agriculture students--most notably with respect to first jobs specified for direct entry to the labor market, but also, if in lesser degree, with respect to first jobs at graduation from university. In both cases, but especially among students in the agricultural curriculum, the association is attributable primarily to occupational inheritance among sons of farmers. Chi-squares were significant for the technical-course youth, but effects of parental occupation once youth have entered the technical curricula are nevertheless minor in absolute terms. Among the General A students parental backgrounds operate in the expected directions but are again relatively minor, and among the commerce students they are not significant at all in sorting out for entry into white collar, technical-manual, or agricultural employments.

Although there are some constraints on the range of status levels associated with the three broad types of occupations as laid out in Table 6-3, there is nevertheless considerable freedom for status anticipations to vary independentely of the stabilities or variabilities in types of entry jobs. Tables 5-4 and 5-5 provide some indications on this point. In Table 6-4 the student sample is subdivided into those taking and those not taking examinations, and then again by parental status level and by level of father's education. First of all, regardless of parental backgrounds

TABLE 6-4

DISTRIBUTIONS OF PERCEIVED STATUS LEVELS FOR ENTRY JOBS FROM UPPER SECONDARY SCHOOLS AND FROM UNIVERSITIES BY FATHER'S OCCUPATIONAL STATUS AND LEVEL OF EDUCATION: ALL STUDENTS AND STUDENTS TAKING AND NOT TAKING EXAMINATIONS

| | Total N | Status of Entry Jobs from Upper Secondary | | | | Total N | Status of Entry Jobs from University | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1, 2, 3 | 4 | 5 | 6, 7, 8 | | 1, 2 | 3 | 1, 2, 3 | 4 | 5 | 6, 7, 8 |
| | | Percentages | | | | | Percentages | | | | | |
| All Students | | | | | | | | | | | | |
| OSTAS 1, 2 | 145 | 11.0 | 43.4 | 17.9 | 24.1 | 161 | 38.5 | 23.6 | 62.1 | 28.6 | 6.8 | 2.5 |
| 3 | 404 | 18.3 | 51.2 | 14.1 | 16.1 | 456 | 31.2 | 23.7 | 54.4 | 35.1 | 7.2 | 3.3 |
| 4 | 446 | 11.0 | 45.3 | 23.3 | 20.4 | 461 | 26.9 | 23.6 | 50.3 | 34.7 | 10.8 | 4.2 |
| 5 | 1,208 | 7.4 | 31.1 | 23.6 | 37.9 | 1,173 | 22.6 | 21.4 | 44.0 | 32.8 | 15.6 | 12.9 |
| 6 | 784 | 12.0 | 34.3 | 23.1 | 30.5 | 826 | 29.6 | 21.4 | 51.0 | 33.5 | 6.3 | 6.7 |
| 7, 8 | 584 | 10.8 | 37.2 | 29.1 | 22.9 | 647 | 24.6 | 22.6 | 47.2 | 37.4 | 10.9 | 5.6 |
| FLEVS 1 | 735 | 10.1 | 39.5 | 24.2 | 26.2 | 802 | 26.0 | 23.6 | 49.6 | 36.3 | 5.9 | 8.1 |
| 2 | 1,415 | 10.2 | 35.1 | 25.6 | 29.1 | 1,438 | 23.9 | 21.5 | 45.4 | 38.2 | 9.6 | 6.5 |
| 3 | 920 | 10.7 | 40.4 | 20.5 | 28.2 | 977 | 27.9 | 22.1 | 50.0 | 34.3 | 8.5 | 7.1 |
| 4 | 234 | 15.8 | 41.9 | 17.5 | 24.8 | 262 | 36.7 | 22.1 | 58.4 | 23.8 | 7.1 | 6.8 |
| 5 | 172 | 16.9 | 50.6 | 15.7 | 16.9 | 198 | 35.3 | 26.8 | 62.1 | 30.3 | 6.1 | 1.5 |
| All Students Taking Exams | | | | | | | | | | | | |
| OSTAS 1, 2 | 128 | 10.2 | 48.4 | 19.5 | 25.8 | 146 | 39.8 | 25.7 | 65.5 | 28.6 | 5.8 | 2.0 |
| 3 | 307 | 16.7 | 57.7 | 10.1 | 15.6 | 359 | 32.0 | 23.6 | 55.6 | 34.8 | 6.7 | 3.0 |
| 4 | 295 | 13.5 | 49.5 | 18.6 | 19.4 | 324 | 30.6 | 25.3 | 56.5 | 30.6 | 8.6 | 4.5 |
| 5 | 591 | 10.0 | 40.6 | 22.5 | 26.7 | 618 | 26.2 | 24.6 | 50.6 | 33.2 | 10.0 | 6.2 |
| 6 | 386 | 14.5 | 45.4 | 19.1 | 25.9 | 452 | 32.6 | 23.9 | 56.2 | 31.9 | 6.5 | 5.3 |
| 7, 8 | 328 | 10.1 | 39.6 | 26.2 | 24.1 | 389 | 30.1 | 21.6 | 51.5 | 34.1 | 10.3 | 4.3 |
| All | 2,015 | 12.3 | 44.7 | 19.6 | 23.2 | 2,348 | 30.5 | 24.0 | 54.5 | 32.5 | 8.3 | 6.7 |
| FLEVS 1 | 374 | 11.2 | 44.5 | 18.7 | 23.5 | 425 | 31.5 | 25.2 | 56.7 | 30.1 | 8.5 | 4.8 |
| 2 | 675 | 12.2 | 43.4 | 23.1 | 21.3 | 760 | 27.1 | 24.2 | 51.3 | 35.1 | 9.1 | 4.5 |
| 3 | 602 | 11.7 | 46.2 | 17.7 | 24.4 | 680 | 30.6 | 23.2 | 53.8 | 33.2 | 7.6 | 5.2 |
| 4 | 181 | 17.7 | 45.9 | 13.4 | 22.7 | 265 | 36.4 | 22.7 | 61.1 | 28.1 | 6.6 | 4.3 |
| 5 | 153 | 16.2 | 51.8 | 15.0 | 17.0 | 178 | 34.6 | 26.7 | 61.3 | 29.7 | 6.7 | 1.1 |
| All Students Not Taking Exams | | | | | | | | | | | | |
| OSTAS 1, 2 | 17 | 17.6 | 35.3 | 35.3 | 11.8 | 17 | 35.4 | 5.9 | 35.3 | 47.1 | 17.6 | — |
| 3 | 34 | 24.5 | 24.0 | 27.7 | 18.0 | 35 | 25.6 | 23.1 | 48.5 | 38.8 | 5.5 | 8.3 |
| 4 | 148 | 5.4 | 38.5 | 35.1 | 22.3 | 138 | 13.6 | 17.6 | 30.0 | 44.1 | 18.2 | 3.6 |
| 5 | 603 | 3.1 | 22.2 | 24.7 | 48.1 | 543 | 13.1 | 17.6 | 30.7 | 33.7 | 11.3 | 25.5 |
| 6 | 414 | 9.7 | 29.7 | 28.8 | 31.8 | 388 | 26.3 | 18.6 | 45.1 | 35.1 | 11.6 | 8.2 |
| 7, 8 | 252 | 11.9 | 35.7 | 32.9 | 21.6 | 278 | 17.6 | 21.9 | 61.3 | 31.7 | 10.1 | 8.9 |
| All | 1,529 | 8.8 | 26.1 | 27.7 | 35.3 | 1,657 | 21.6 | 18.1 | 40.3 | 38.3 | 11.5 | 11.4 |
| FLEVS 1 | 356 | 3.9 | 15.0 | 24.8 | 56.3 | 378 | 16.7 | 21.9 | 41.3 | 38.8 | 13.6 | 6.3 |
| 2 | 725 | 8.3 | 27.8 | 28.3 | 37.1 | 678 | 20.8 | 18.1 | 38.8 | 37.5 | 14.8 | 10.8 |
| 3 | 306 | 9.2 | 26.5 | 28.0 | 35.6 | 286 | 23.1 | 15.6 | 41.5 | 38.7 | 13.2 | 11.6 |
| 4 | 52 | 5.5 | 29.9 | 30.5 | 33.7 | 58 | 20.3 | 15.0 | 48.4 | 38.3 | 10.3 | 5.1 |
| 5 | 19 | 21.0 | 48.1 | 21.1 | 17.8 | 20 | 40.0 | 10.0 | 50.0 | 40.0 | — | 7.0 |

there is a very substantial shift from the secondary to the university entry point in proportions specifying entry jobs at level 3 or above, a corresponding dramatic drop-off in proportions specifying entry jobs at the lower levels after graduation from university. This is so obviously to be expected as to be of comparatively little interest. More interesting are the particular relationships with parental status and with whether the respondent in fact anticipated going to university or not.

We consider first the associations between parental status and responses with respect to status levels perceived for jobs at entry to the labor market directly from upper secondary school. The first column of Table 6-4 gives the proportions of youth who were so optimistic (or so fortunate?) as to contemplate entry direct from upper secondary to a level 3 job or better--usually to level 3. These minorities were larger among the sons of men at occupational status level 3 than any other, and regardless of whether a youth anticipated going on to university or not. However, among students taking examinations the sons of men in the top status brackets (1 and 2) were no more optimistic about entry-level jobs from upper secondary school then were those whose fathers were in the lowest occupational status categories. It was only among those not taking examinations that parental status at the top seemed to raise expectations with respect to entry jobs at graduation from upper secondary school. The distinctively technical and business orientations common among fathers at status level 3 are evident in these results. Equally interesting

is the curvilinear association between parental status and perceived level of entry jobs from upper-secondary school among youth not taking examinations. Proportions of these youth seeing possibilities of jobs at level 3 or better were distinctly low among sons of men in status categories 4 and 5, and proportions indicating first jobs direct from secondary school at level 6 or below were decidedly high for those with parental status levels 5 and 6 as compared even with those from levels 7 and 8. This is in line with what we observed when examining associations between parental status and anticipated occupational status levels 20 to 30 years into the future, but the curvilinearity here is more pronounced. No such curvilinearity shows up in the relationships between perceived first-job status direct from secondary school and parental status among youth who in fact anticipated continuing to higher education.

The relationships between parental status and anticipated first-job status with university completion are generally minor. University-bound sons of top-bracket fathers do indeed have the most pervasively ambitious aspirations for occupational status immediately after completion of university; in considerable degree this is unquestionably a matter of occupational inheritance in the broad sense of inheritance of professional orientations, together in some cases with anticipated entry into a successful family business. By contrast, university-bound sons of men in the status category 5 (which has so often called for special comment) are the least likely to anticipate high status levels in jobs directly from university.

The differences between these extremes is substantial: a difference of 13 percent in proportions anticipating status levels 1 and 2 and of 15 percent in proportions anticipating status levels 1, 2, and 3 combined. Among university-bound sons the range otherwise is small (30 to 32 percent anticipated levels 1, 2 and 51 to 57 percent anticipated levels 1, 2, or 3). The most important contrast is not among sons of men in various occupational status categories but between the youth taking examinations and those not doing so; matching by parental status levels the latter have consistently the lower perceptions of the status levels at which they might begin to work after completion of university education.

Associations of first-job status anticipations with parental education can be dismissed with brief comment. Sons of men with university education generally anticipate relatively high status on their first jobs as compared with other youth in the same segment of Table 6-4, as do the college-bound sons of men with junior-college levels of education (whether we look at entry from upper-secondary school or from university). There is little difference by parental education below the college and university levels.

Table 6-5 provides a summary of results of within-course cross-tabulations against father's occupation, father's education and mother's education along with similar summaries using the sub-samples for all college-going and non-college students already presented in greater detail for OSTAS and FLEVS in Table 6-4. Looking first at entry-job

TABLE 6-5

CHI-SQUARE AND GAMMA VALUES ON TABULATIONS OF PERCEIVED STATUS LEVELS FOR ENTRY JOBS FROM UPPER SECONDARY SCHOOLS AND FROM UNIVERSITIES AGAINST PARENTAL TRAITS; BY COURSE TYPES AND BY EXAM

| | Tabulations Against Level of First Job from Secondary School | | | | Tabulations Against Level of First Job from University | | | |
|---|---|---|---|---|---|---|---|---|
| | Degrees of Freedom | Chi Square | Level of Significance of Chi Square | Gamma | Degrees of Freedom | Chi Square | Level of Significance of Chi Square | Gamma |
| General B Students | | | | | | | | |
| Father's Occup. Status | 49 | 100.748 | .317 | .113 | 49 | 120.290 | .000 | .073 |
| Father's Educ. Level | 28 | 36.292 | .138 | -.069 | 28 | 47.086 | .014 | -.103 |
| Mother's Educ. Level[a] | 35 | 24.207 | N.S. | -.108 | 35 | 44.168 | .140 | -.076 |
| General A Students | | | | | | | | |
| Father's Occup. Status | 49 | 34.355 | N.S. | .095 | 49 | 37.972 | N.S. | -.041 |
| Father's Educ. Level | 28 | 46.580 | .016 | -.118 | 28 | 25.135 | N.S. | .011 |
| Mother's Educ. Level[a] | 35 | 16.065 | N.S. | .003 | 35 | 18.856 | N.S. | .089 |
| Agriculture Students | | | | | | | | |
| Father's Occup. Status | 49 | 98.075 | .000 | -.030 | 49 | 71.708 | .020 | .039 |
| Father's Educ. Level | 28 | 23.710 | N.S. | .101 | 28 | 19.296 | N.S. | .035 |
| Mother's Educ. Level[a] | 35 | 30.905 | N.S. | .027 | 35 | 37.811 | .344 | .075 |
| Commerce Students | | | | | | | | |
| Father's Occup. Status | 49 | 53.238 | .317 | .158 | 49 | 42.612 | N.S. | .074 |
| Father's Educ. Level | 28 | 20.197 | N.S. | -.086 | 28 | 32.272 | .228 | -.033 |
| Mother's Educ. Level[a] | 35 | 27.815 | N.S. | -.080 | 35 | 22.378 | N.S. | -.093 |
| Technical Students | | | | | | | | |
| Father's Occup. Status | 49 | 53.311 | .315 | .039 | 49 | 72.706 | .017 | .014 |
| Father's Educ. Level | 28 | 22.987 | N.S. | -.005 | 28 | 21.825 | N.S. | -.035 |
| Mother's Educ. Level[a] | 35 | 22.172 | N.S. | .007 | 35 | 20.822 | N.S. | -.015 |
| All Students | | | | | | | | |
| Father's Occup. Status | 49 | 254.066 | .000 | .081 | 49 | 261.060 | .000 | .047 |
| Father's Educ. Level | 28 | 59.003 | .001 | -.060 | 28 | 75.957 | .000 | -.078 |
| Mother's Educ. Level[a] | 35 | 46.370 | .097 | -.053 | 35 | 57.005 | .012 | -.062 |
| All Students Taking Exams | | | | | | | | |
| Father's Occup. Status | 49 | 109.863 | .000 | .101 | 49 | 144.149 | .000 | .052 |
| Father's Educ. Level | 28 | 39.271 | .079 | -.047 | 28 | 52.986 | .003 | -.060 |
| Mother's Educ. Level[a] | 35 | 38.816 | .304 | -.045 | 35 | 42.389 | .185 | -.051 |
| All Students Not Taking Exams | | | | | | | | |
| Father's Occup. Status | 49 | 170.019 | .000 | -.030 | 49 | 114.503 | .000 | -.039 |
| Father's Educ. Level | 28 | 24.080 | N.S. | .020 | 28 | 28.082 | .461 | -.018 |
| Mother's Educ. Level[a] | 35 | 22.824 | N.S. | .027 | 35 | 29.006 | N.S. | .009 |

[a]Includes a row of cells for mother's education "other" which is placed after university. This damps the gamma measures, with ambiguous effects on the chi square statistic and its significance.

status directly from upper secondary school, it is apparent that the correlations with OSTAS are highly significant so long as we do not subdivide by course type, but note that among students not taking examinations the correlation is significantly negative; high status youth who opt out of the higher education choice seem to have less optimism or ambition even with respect to jobs when they leave upper secondary school, whereas the lower status youth among those who are not taking examinations have on the whole the higher expectations for job entry levels from upper secondary school. There can be no question about the individual selectivity to secondary curricula involved in this pattern. Looking within course types this is reflected in the lack of any significance of parental status among the General A students, its essential non-significance among the commerce and technical students, and the significant negative association among students in the agricultural courses. The only significant positive within-course association is among students in the General B curriculum. For status on first jobs at completion of university education the pattern is essentially similar, except that the chi square measure is now significant (at .017) within the technical course and the significant negative association among the agriculture students is reversed. The association at the bottom of the table for the sub-sample of all terminal students remains negative; terminal students from higher status homes perceive relatively low status levels on first jobs from university as well as from upper secondary school.

Associations between anticipated entry-job status and father's educational level are highly significant, and in the expected direction, for both secondary and university entry jobs for the student population as a whole; mother's education is less closely associated with these status expectations, but again it is significantly associated so long as we look across all courses and educational aspirations combined. Father's education retains significance within the college-going group of all students taking examinations, but parental education drops to insignificance among youth not continuing to higher education, regardless of whether we look at their perceptions of what they will in fact be doing in the near future or what they might be doing as a first job in the unlikely event that they were able (or indeed even desired) to go through university. It is only among General A students, and even then with reference only to their perceptions of direct-entry jobs, that parental education has any significance in the within-course differentiation of first-job status anticipations. Any parental education affects that may in fact exist are fully accounted for with the initial allocation of youth among types of secondary curricula.

In sum, neither parental status nor parental education makes much difference with respect to anticipated entry-job levels from upper-secondary or from university once the prior effects in allocation of youth among course types is taken into account. The one important exception is that parental status does indeed still differentiate significantly with respect to opportunity perceptions of students in the academic general course--their

chances of actually attending university quite aside. Parental background does of course further affect anticipated status levels of entry jobs insofar as it affects likelihoods of attending university; but here again the allocation among course types has already taken up most of this affect, as was clearly evidenced in Chapter IV.

Work-study and Training Attitudes

The choice between direct entry to the job market and further education is by no means an all or nothing affair. For one thing, when a youth opts for university education he foregoes not only what he may receive in wages if he goes immediately to work but also what he will learn through experience over that interval, the contacts he will build up and advantages of seniority in a firm. Indeed, the learning and the building of seniority could in some cases be quite as important as the more immediately visible earnings--and need not necessarily involve any formal "training," let alone part-time study in educational institutions. However, there is no way of identifying students' anticipations of the value of this sort of learning or the value of accumulating seniority in the immediate post-secondary years except as these anticipations may find expression in income anticipations, to be discussed later. What we can and will do briefly here is to take a quick look at how students in each of the upper secondary curricula perceive the possibilities and advantages, should they not attend university, of study at night university and of

education or training in the firm. Inherently the latter is usually interpreted as formal training of some kind, since the more subtle sort of on-the-job learning and training is not so easily identified and questions so directed would almost always be misinterpreted.

Distributions of responses on the two questions concerning interest in attending night school and interest in receiving training in a firm[1] are shown for all students in each type of course at the bottom of Table 6-6. Yes 1 indicates an answer "definitely yes," Yes 2 "probably yes," No 3 "probably not" and No 4 "definitely not."[2] It is immediately obvious that the General B students, most of whom were in fact taking examinations for entry to university, were decidedly the most likely to seriously contemplate study at night school or to see this as what they would do if faced with frustration of their hopes for full-time higher education. Students in the technical curricula were more interested in this possibility than any other group among the student populations with relatively low full-time college expectations. The agriculture students rarely considered such an option,

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[1](Questions 17.1 and 17.3 of the questionnaire as reproduced in Appendix A.)

[2]The translations are misleading on code 1 as given in the Appendix. This is on account of the problem of the use of conditional forms or the the subjunctive case in translations between the Japanese and English. A more accurate, but over-elaborate translation would be "have plans to take in case I in fact plan to go directly to a job or in case I should go directly to a job I would plan to do so."

TABLE 6-6

ASSOCIATIONS BETWEEN "DREAM" OCCUPATIONAL STATUS ASPIRATIONS AND ATTITUDES TOWARD PART-TIME AND ON-THE-JOB EDUCATION AND TRAINING

| Code-Class[a] | | Night University | | | | | Education in Firm | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | No | | N. R. | | | | | N. R. | |
| | | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | | |
| All Students | | | | | | | | | | | | |
| Number[b] | | 642 | 827 | 1,137 | 1,202 | 629 | 1,005 | 1,250 | 606 | 820 | 755 | 4,437 |
| Percentage with "Dream" Status: | 1 | 24 | 15 | 11 | 11 | 13 | 13 | 13 | 15 | 14 | 16 | 14 |
| | 4-8 | 20 | 26 | 36 | 47 | 41 | 31 | 33 | 37 | 42 | 37 | 36 |
| General B Students | | | | | | | | | | | | |
| Number | | 368 | 277 | 191 | 222 | 181 | 195 | 312 | 191 | 264 | 277 | 1,239 |
| Percentage with "Dream" Status: | 1 | 29 | 19 | 19 | 19 | 20 | 22 | 20 | 26 | 22 | 24 | 22 |
| | 4-8 | 18 | 23 | 27 | 30 | 27 | 20 | 22 | 24 | 26 | 28 | 24 |
| General A Students | | | | | | | | | | | | |
| Number | | 16 | 40 | 91 | 107 | 45 | 57 | 94 | 62 | 46 | 40 | 299 |
| Percentage with "Dream" Status: | 1 | 13 | 18 | 8 | 14 | 9 | 18 | 6 | 10 | 13 | 18 | 12 |
| | 4-8 | 31 | 33 | 44 | 41 | 53 | 42 | 47 | 42 | 41 | 36 | 42 |
| Agriculture Students | | | | | | | | | | | | |
| Number | | 13 | 48 | 122 | 346 | 130 | 76 | 136 | 107 | 219 | 120 | 659 |
| Percentage with "Dream" Status: | 1 | 31 | 8 | 6 | 9 | 8 | 8 | 8 | 7 | 9 | 10 | 8 |
| | 4-8 | 46 | 38 | 59 | 62 | 64 | 51 | 42 | 63 | 66 | 62 | 60 |
| Commerce Students | | | | | | | | | | | | |
| Number | | 70 | 108 | 200 | 195 | 91 | 172 | 190 | 87 | 112 | 103 | 664 |
| Percentage with "Dream" Status: | 1 | 20 | 13 | 10 | 9 | 10 | 11 | 12 | 13 | 10 | 12 | 11 |
| | 4-8 | 24 | 33 | 33 | 48 | 46 | 44 | 40 | 37 | 38 | 46 | 41 |
| Technical Students | | | | | | | | | | | | |
| Number | | 175 | 354 | 533 | 332 | 181 | 505 | 518 | 159 | 179 | 314 | 1,575 |
| Percentage with "Dream" Status: | 1 | 15 | 14 | 9 | 9 | 13 | 11 | 11 | 9 | 14 | 13 | 11 |
| | 4-8 | 16 | 25 | 31 | 43 | 31 | 26 | 29 | 33 | 40 | 31 | 30 |
| Percentage Distributions (Horizontal) | | | | | | Total | | | | | | Total |
| General B | | 30 | 33 | 15 | 18 | 15 | 100 | 16 | 25 | 15 | 21 | 22 | 100 |
| General A | | 5 | 13 | 30 | 36 | 15 | 100 | 19 | 31 | 21 | 15 | 13 | 100 |
| Agriculture | | 2 | 7 | 19 | 53 | 20 | 100 | 12 | 21 | 16 | 33 | 18 | 100 |
| Commerce | | 10 | 16 | 30 | 29 | 14 | 100 | 26 | 29 | 13 | 17 | 16 | 100 |
| Technical | | 11 | 23 | 34 | 21 | 12 | 100 | 32 | 33 | 10 | 11 | 14 | 100 |

[a] Responses concerning interest in and likelihood of seeking such training if not continuing in full-time higher education are coded:
1. Definitely Yes
2. Probably Yes
3. Probably No.
4. Definitely No

[b] Excludes students not responding on "Dream" occupation.

in some part perhaps because of limited opportunities in their immediate communities.

Training in a firm was seen in a somewhat different light. Overall larger proportions of the students responded affirmatively to this question, but it was the students in the commerce and technical curricula who were most positive about it and the technical students especially were least inclined to take strong negative positions. Agriculture students again were the least oriented to this way of getting ahead, though even among them two fifths took at least a moderately affirmative position. They are the only group among whom the positive answers were not a majority, even though the non-responses are included in the denominators. On the nightschool question, by contrast, it was only among the General B students that a majority answered in the affirmative, and only 11 percent of the agriculture students gave an affirmative answer. It seems clear enough that early training on the job is seen as atleast worth serious consideration by sizable fractions of the young men coming out of the upper secondary schools of Japan. Many, especially among students in the technical curricula, may have quite clear perceptions of the "orientation" and probationary training periods, lasting sometimes for as much as six months or more, that have become a feature of recruitment and personnel policy in many of the major firms in Japan. With these programs the formal and the more informal aspects of training and learning through experience can easily become blurred and yet retain visibility

among young people as a recognized step in the development of their own "human capital."

In addition to the summary figures at the bottom, we have set Table 6-6 up to allow a comparison between the youth who dream the highest dreams (those aspiring in their frankly unrealistic dreams to a status 1 level of occupation in the longer future) and those who constrained their dreams to status levels of 4 or lower. In this main part of the table the percentages are vertical; that is, they state what proportion of those in each response category dreamed the highest dreams, what proportions were among the most modest in their inclinations to unfettered imaginings of career success.

Among the students in the General A, the agriculture, and the commerce curricula there were both larger proportions with low status dreams and a closer match of the negative responses to the non-response groups on night universities than in the technical or, especially, the General B course. This conformity of the non-response with the no response groups was repeated on training in the firm among the agriculture students but not elsewhere. It is not enough just to say that these youth have "low achievement motivation." Some of them may in fact be motivated to high levels of achievement within the context of rural life, especially where their ambitions are to be better and better farmers. Status scales impede us here. But taken together with indications that have come out at one point or another in the course of this research, it

seems clear that many rural youth have difficulty in visualizing career-development paths other than those through regular schooling sequences (along with agricultural extension short courses), followed by employment in agriculture, the more ubiquitous sorts of white-collar and manual employment, and work in government agencies. Those difficulties are associated with the fact that the range of learning and training opportunities locally available are inevitably more limited than in urban areas.

Within courses there was a systematic positive association between high-level dreaming and attitudes toward night university, especially evident among youth in the vocational curricula. By contrast, there was no systematic relationship at all between responses concerning training in the firm and tendencies to soaring or modest occupational dreams. Furthermore, evidence included in some of the tabulations in the last part of Chapter V suggests at the most a very ambiguous relationship between attitudes toward training in the firm and perceptions of the place of such training in creation of future earning power. These ambiguities cannot be put down merely to ignorance; we are faced again with the fact that the objective as well as the perceived parameters of economic decision-making with respect to education and careers are conditioned in significant degree by the existence and viability (or lack) of family enterprises.

## II. Occupational Sequences; the Past and the Future

How far the first job a man takes will condition where he goes thereafter will depend both upon the nature, range and diversity of his skills and the societal institutions that condition the utilization of skills and their further development. Post-school utilization and development of human resources depends significantly, in other words, on the structures and functioning of the labor markets, including the meaning in practice of the so-called "life commitment" system among other things; these patterns and their implications are best understood in a "human-investment" or human-resource-development frame of analysis. The first question, focusing on skills at emergence from schools, heads in the first instance more directly into the types of discussion and data collection normally encompassed under "manpower planning," though the separation between skill categorizations and post-school human development cannot in the end be sustained. The roles of various types of secondary schools and the effects of vocational specialization in particular can and must be considered in both perspectives. In the present section we will take more nearly the "manpower" view in that we deal only with quantitative data and give little heed to its interpretation with respect to economic decision models for either individuals or firms, but even here the evidence will shade over toward more "economic" interpretations of post-school experiences, past and anticipated.

## Age Cross-sections and Directions of Change in the Occupational Structure

A sufficient background with respect to occupational distributions among men in their forties, along with distributions for fathers of the students in our samples, was provided in Chapter V. We have also taken a look at the occupations of newly hired wage and salaried persons and at the relationships between the extent to which vacancies were filled by new graduates and school leavers and the ratio of accessions to separations, taking the latter as a crude indicator of directions of shift in the occupational structure.[1] We are ready now to sketch in more fully the patterning of life occupation paths described not in individual terms but by the use of data by age for the entire male population in two census years, 1955 and 1960. From these data we can construct both age cross-section estimates of occupational paths and preliminary cohort patterns. Instead of carrying such calculations out formally, however, we have limited ourselves to graphic presentations, in Figures 6-1 through 6-4.

The U-shaped curves of Figure 6-1 depict proportions of men in each age bracket in 1955 (solid line) and in 1960 (dashed line) who were not in the labor force in those years respectively. Dotted lines carry each cohort from its 1955 to its 1960 position. The U shapes are of course what

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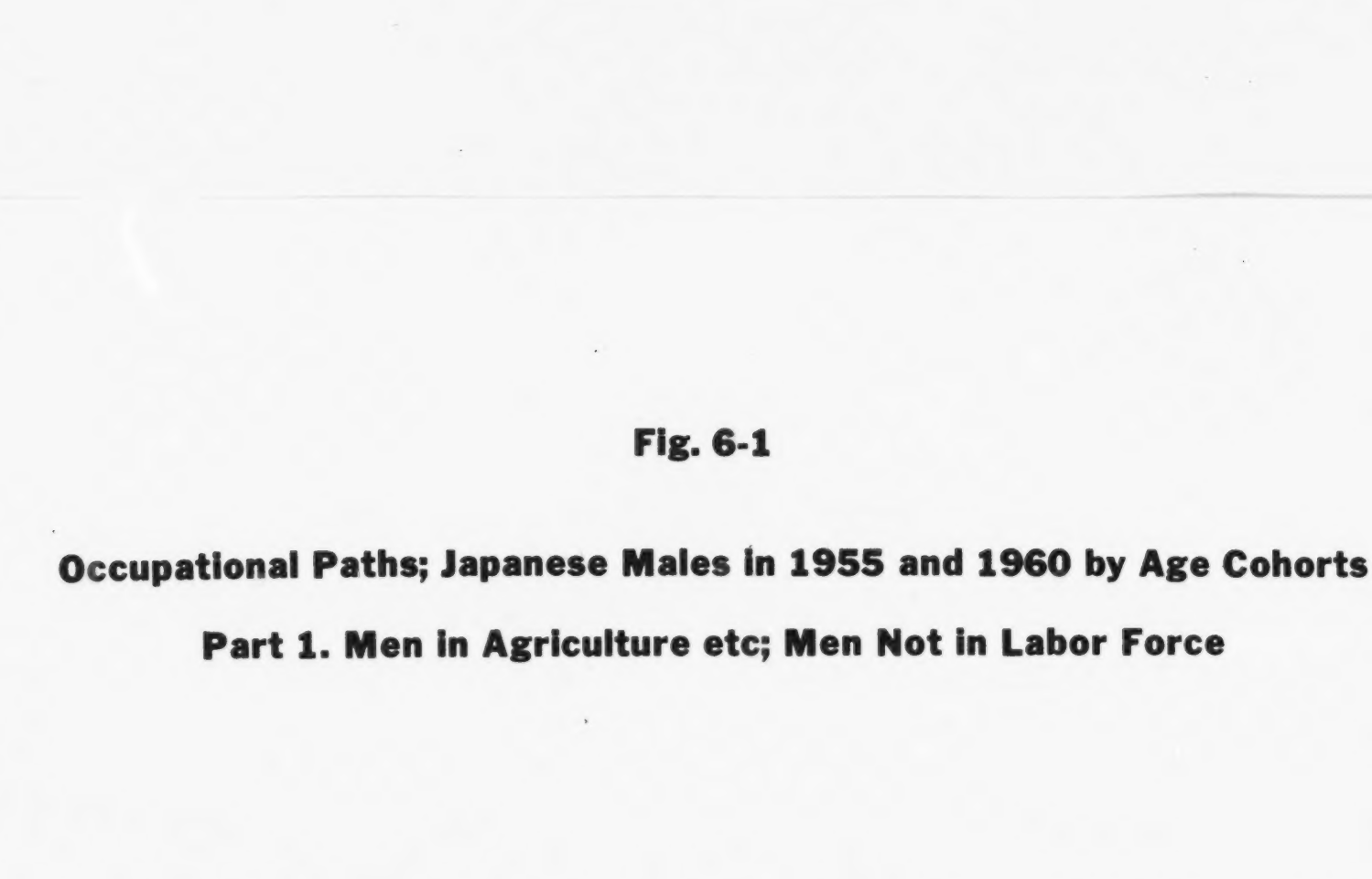
[1]Though we used data covering only a six-month observation in a particular year, other data for other and subsequent years support the general picture evidenced over the first half of 1965.

**Fig. 6-1**

**Occupational Paths; Japanese Males in 1955 and 1960 by Age Cohorts**

**Part 1. Men in Agriculture etc; Men Not in Labor Force**



we should expect, but there was no reason a priori for expecting the 1960 curve to lie below that for 1955; that this is the case reflects the expansiveness of the Japanese economy over that period together with the problem, a pervasive one, of defining who in fact is "in the labor force." For these Japanese data the definition "in the labor force" amounts to the same thing as "economically active" and shifts in these proportions are due to a combination of shifts out of inadequately counted categories of family workers and increasingly tight full-employment labor markets. (Note that the chart refers to men only; there is no complication on account of changes in labor-force participation among women.) Toward the older ages the dotted lines necessarily level out and rise, as they must with retirement. Despite steady expansion in proportions of Japanese youth attending upper secondary schools and institutions of higher education, there is no impact on rates of labor force participation in the younger ages; the data from the 1955 and the 1960 sample censuses (one in one hundred) are virtually identical, with the 1960 figures for non-participation if anything the lower among youth of college age.

The slowly rising curves for agriculture, forestry and fishing, also in Figure 6-1, are interesting both in what they have to tell us substantively and in what they illustrate about the fallacy of using age cross-section data to represent age cohorts. In a society that was completely static a curve for proportions in an occupation that rose with age would

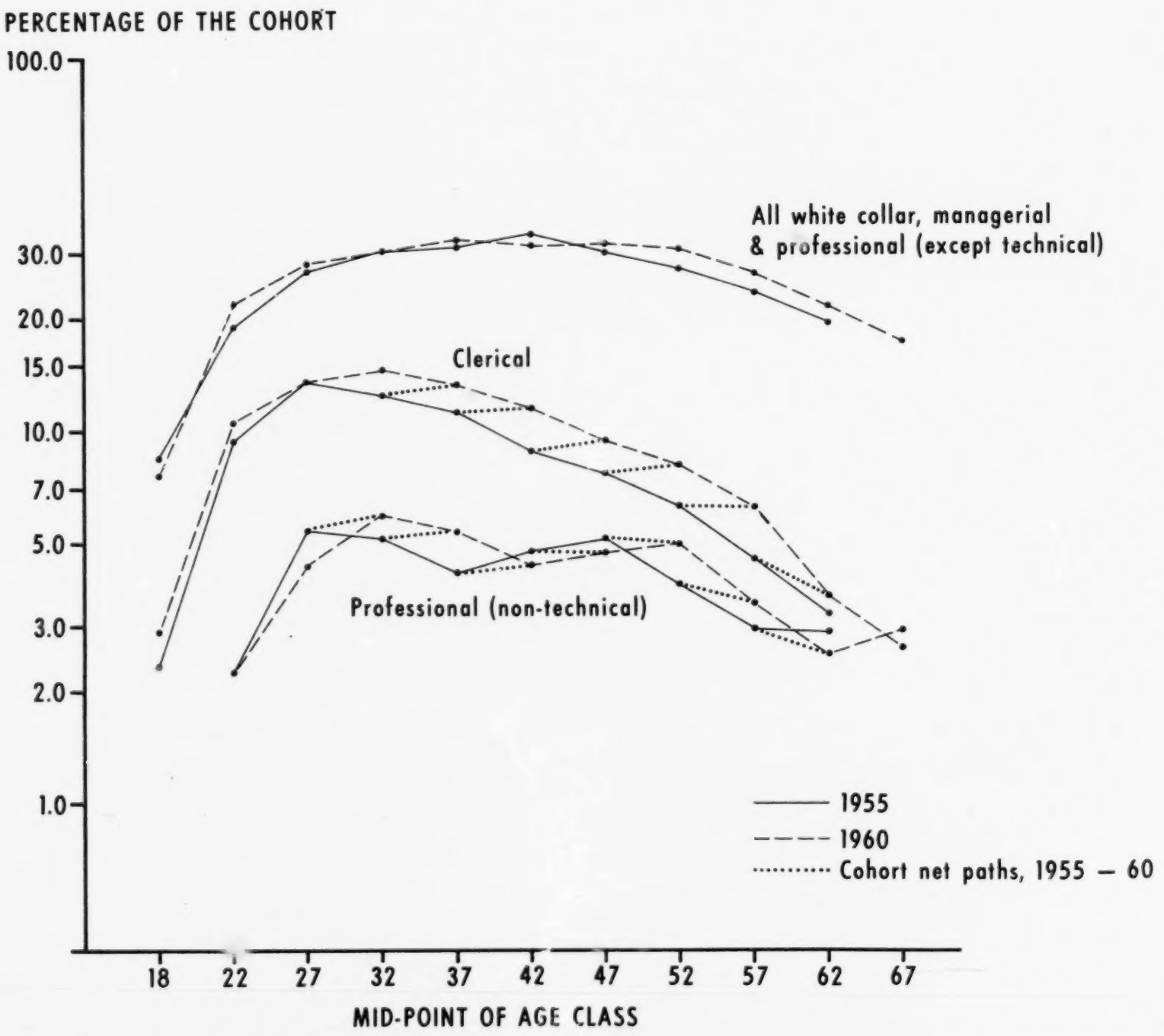
imply cumulative accessions to the occupation as people grew older and more experienced. Taking either the 1955 or the 1960 curve alone that is the picture. But these curves are rising for quite another reason--because fewer young people are entering agriculture whereas the older people (who went into farming and related sectors long ago when these activities occupied a larger fraction of the labor force) stay on. What is happening is migration out of agriculture, not into it, but the out-migrations, especially at the older ages, are limited by the lack of qualifications of these older men for other jobs and their comparative advantage as experienced farmers. If a new cohort path were created by applying to each of the new young entrants to farming the relative downward slope of successive age groups across the chart we would in fact end up with something like 6 or 7 percent still in agriculture in their 60's. Such an adjustment would no doubt be exaggerated, but the direction of the shifts and that they are likely to have cumulative effects is beyond doubt. This is quite independent of what is or is not done about the agricultural schools, but is nevertheless a highly relevant consideration in planning agricultural education for the future,

Figures 6-2 and 6-3 lay out the patterns among various groups of occupations in the broad category of white collar, managerial and professional but excluding technical occupations of all ranks. For all of these occupations combined the curves are essentially horizontal except as they pick up new entrants to the labor market in the younger groups and reflect

**Fig. 6-2**

**Occupational Paths; Japanese Males in 1955 and 1960 by Age Cohorts**

**Part 2. All White Collar; Clerical; Professional**



retirements in the older ages. However, that flatness is a result of contrary age patterns among sub-categories.

Clerical workers tend to be comparatively young, in Japan as elsewhere. From this fact alone we might conclude that the young graduates of the upper secondary schools were sufficiently realistic in bypassing clerical work as an occupation in the mature years. Almost certainly clerical occupations will indeed remain relatively young, as a source from which men in other jobs are recruited and a stage through which the young go in acquiring experience at work--and in waiting for a chance to step up in the queue. But whether there will be as much stepping up out of clerical jobs in the future is still open to question. The question is a serious one given the high proportion of university graduates, let alone graduates of upper secondary schools, who are in clerical employments. If the trends suggested by Figure 6-2 were to persist, with their horizontal dotted lines from 1955 to 1960, the cross-section age pattern for proportions in clerical jobs would tend to flatten out at about the level displayed on Figure 6-2 for the 32 year-olds of 1955 and the 37-year-olds of 1960.

The curve for professional non-technical workers is irregular in age cross-section because of effects of the war and immediate post-war adjustment on the education of men for the professions. The cohort dotted lines show the basic stability over the life span in proportions of a cohort in professional (non-technical) occupations once young men have qualified. Downward slopes of those dotted lines in the 1950's reflect in the main

shifts from identification by professional status to job or occupational identification by authority or managerial role. The fact that the 1960 proportion in professional non-technical occupations was lower than the 1955 proportion for men in their late twenties is puzzling, but percentagewise the difference is in fact small. (Note that the vertical scale is in logarithmic form, primarily to facilitate the layout of the charts.)

Figure 6-3, which continues with the white collar, professional, managerial groups, is of interest primarily in the unmistakable age pattern for managers and officials, a pattern that is repeated from one country to another. The only shift displayed, and it is not a random one, is the continuation of older men in these positions, making for a larger managerial and official proportion among older members of the male labor force in 1960 than in 1955. The shift is a minor one, however, and is not likely to be cumulatively valid.

With Figure 6-4 we come to technical-manual occupations. Because of changes in classifications it was impossible to separate out 1955 data to match the 1960 figures for technical-professional men, but this is unquestionably a rapidly rising group, albeit still a small fraction of the total labor force. Judging from the attitudes among the upper secondary students it is a highly attractive occupation as well, and there is indubitable a significant, probably growing minority of students in the technical secondary schools who would eagerly take up post-secondary technical education at both the junior college and full university levels were this

**Fig. 6-3**

**Occupational Paths; Japanese Males in 1955 and 1960 by Age Cohorts**

**Part 3. Managers and Officials; Sales Workers**

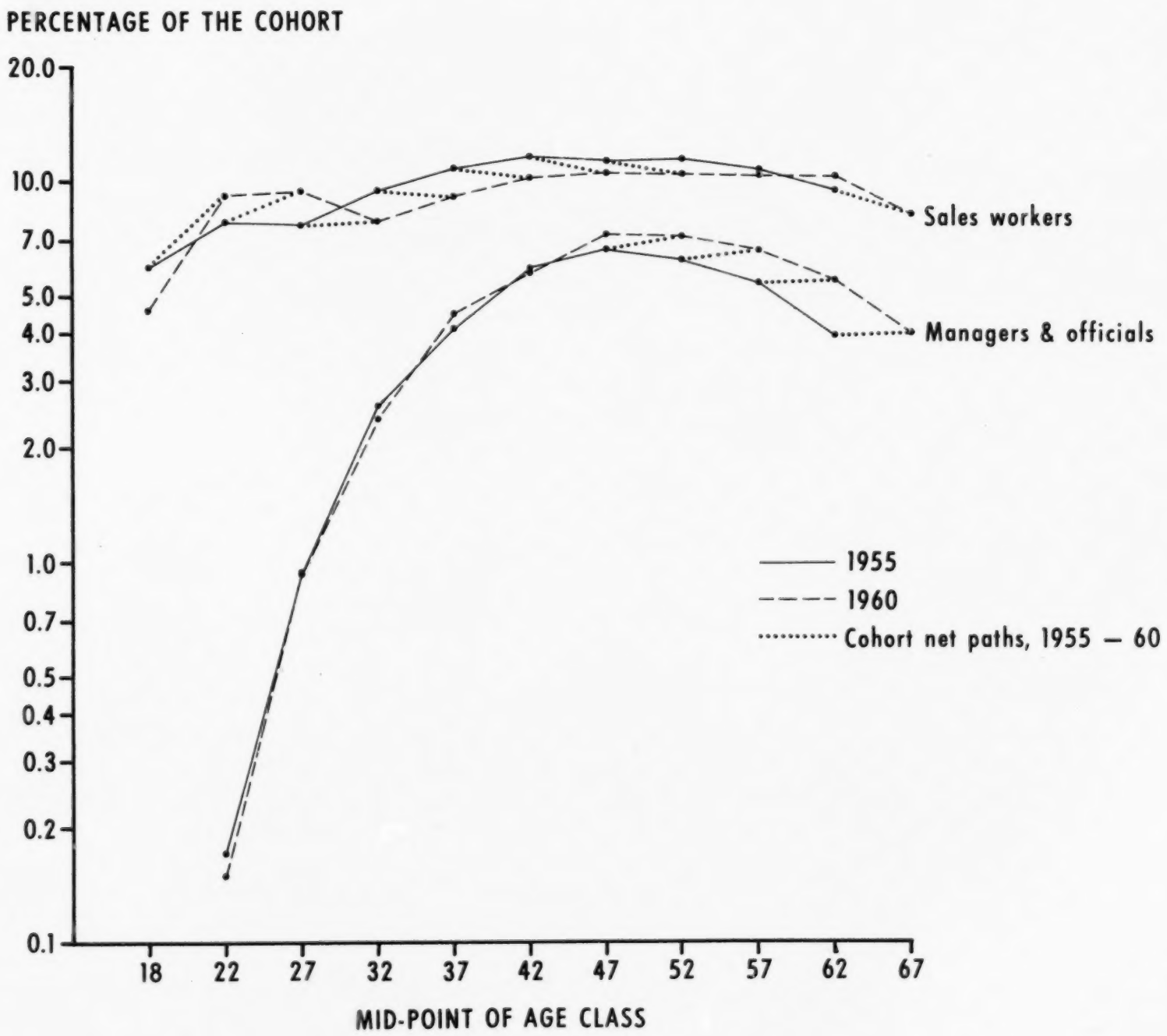
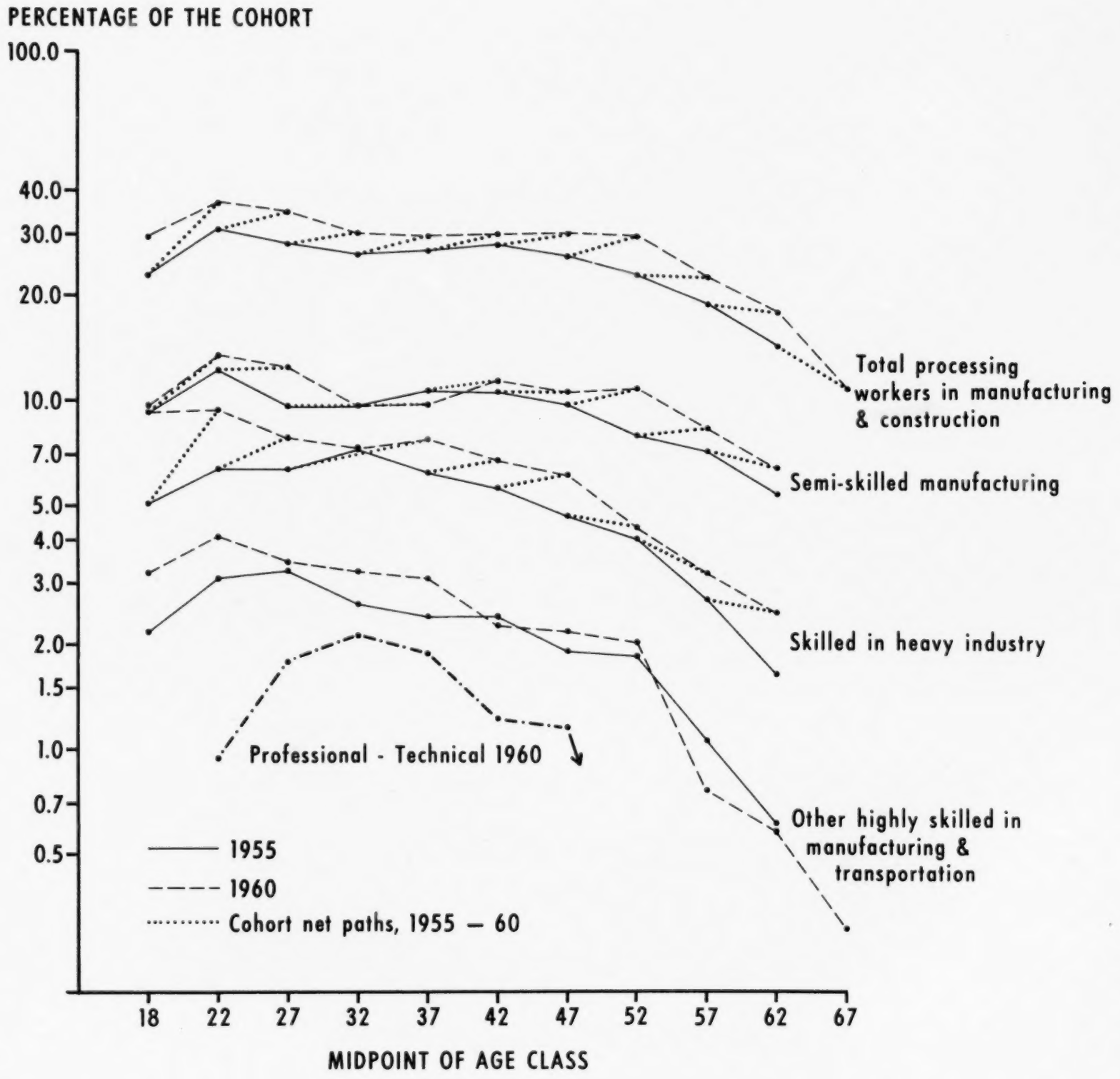


**Fig. 6-4**

**Occupational Paths; Japanese Males in 1955 and 1960 by Age Cohorts**

**Part 4. Total Processing Workers and Selected Sub-categories of Technical and Manual Occupations**



available to them. Some indeed are doing so, along with those who are studying and graduating from the five-year technical junior colleges (starting, it will be remembered, at the same level as the upper secondary schools but with a five-year instead of a three-year program). Skilled workers generally are in fact young, but this does not mean that they shift to other occupations. What we have here is an expansion in the skilled ranks with persistence in such occupations up to the late forties when proportions begin to decline. Both physical and obsolescence factors are involved in the later years; high manual skills are rarely acquired late in life and those who drop out of the skilled ranks are replaced by younger men. There is surprisingly little evidence of net shifts either into or out of semi-skilled processing jobs, or of any long-term change in their relative importance. The ranks of the semi-skilled have been filled primarily by men (and women) with compulsory schooling only, and for some time this will continue to be the case. However, the fact that this occupation was included not only in first jobs but as ultimate expectations for a few of the upper-secondary seniors is a realistic anticipation, whether or not a correct prognosis for the particular individuals who gave such responses.

Anticipated Occupational Paths

Observation of net shifts in occupations by the various age cohorts of Japanese men over a five year period cannot tell us what particular kinds

of changes were made, or how far individuals switched between white collar and manual, from one skill to another, from professional to managerial and so on. Nevertheless, the occupational patterns and the aggregative net paths sketched out in the last section do indicate the minimal extent of occupational mobility that must have occurred, and they give us considerable insight into the question as to how far changes in the occupational structure as a whole are brought about by substantial changes in the distribution of skills provided and jobs filled by newcomers to the labor markets. They are therefore a fitting backdrop to examination of the way these newcomers perceive not only where or how they will begin and where they are headed separately, but also the relationship between the type of job with which a youth expects to start and the type in which he hopes and expects to be engaged in his mature years. The next four tables lay out some of our findings on these matters.

We begin analysis of persistence and shift patterns in types of jobs anticipated by breaking the sample into four groups according to whether the young men are sons of farmers or not and whether they are attending school in rural or urban locations (Table 6-7). Data are for the adjusted sample, in conformity with distributions of students among types of upper secondary courses in Japan as a whole. Analysis is laid out by type of occupation expected on first job (regardless of whether this will be from upper secondary school directly or after higher education).

TABLE 6-7

ANTICIPATED INTRA-CAREER OCCUPATIONAL SHIFT PATTERNS (TYPE CLASSIFICATION III)
ADJUSTED SUB-SAMPLES BY RURALITY

| Sub-samples and Expected Occupation Types on First Job (Type Classification III) | Total | | First-to-Peak Occupation Shift Categories | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | No Shift | Shift to Managerial Processing | Shift to High White Collar | Shift to High Technical; up Within Tech-manual[a] | Shift to Agriculture[b] | Other Shifts | Indefinit |
| | | | Horizontal Percentage Distributions | | | | | | |
| Sons of Farmers; Rural Schools | | | | | | | | | |
| High White Collar | 114 | 100 | 51 | 6 | x | 3 | 7 | 28 | 9 |
| High Technical | 60 | 100 | 23 | 17 | 8 | x | 7 | 27 | 18 |
| Clerical | 39 | 100 | 8 | 10 | 26 | 5 | 10 | 36 | 5 |
| Retail and Services | 40 | 100 | 17 | 38 | 18 | — | 2 | 25 | — |
| Manual[a] | 45 | 100 | 11 | 13 | 2 | 11 | 11 | 47 | 5 |
| Agriculture[b] | 116 | 100 | 68 | 5 | 7 | 2 | x | 16 | 2 |
| Others, specified | 8 | 100 | | | | | | | |
| Indefinite | 188 | 100 | [59][c] | 14 | 7 | 2 | 4 | 14 | x |
| Total | 610 | | | | | | | | |
| Sons of Farmers; Urban Schools | | | | | | | | | |
| High White Collar | 30 | 100 | 50 | 13 | x | 7 | 3 | 17 | 10 |
| High Technical | 54 | 100 | 54 | 7 | 2 | x | 2 | 33 | 2 |
| Clerical | 23 | 100 | 9 | 22 | 13 | 4 | 9 | 39 | 4 |
| Retail and Services | 14 | 100 | 14 | 43 | — | — | — | 36 | 7 |
| Manual[a] | 37 | 100 | 11 | 19 | 3 | 32 | 5 | 24 | 6 |
| Agriculture[b] | 31 | 100 | 87 | — | — | — | x | 13 | — |
| Others, specified | 1 | 100 | | | | | | | |
| Indefinite | 74 | 100 | [60][c] | 12 | 5 | 10 | 4 | 9 | x |
| Total | 264 | | | | | | | | |
| Sons of Non-farmers; Rural Schools | | | | | | | | | |
| High White Collar | 148 | 100 | 57 | 3 | x | 3 | 2 | 27 | 8 |
| High Technical | 91 | 100 | 39 | 8 | 11 | x | — | 35 | 7 |
| Clerical | 61 | 100 | 26 | 23 | 12 | 3 | 2 | 33 | 1 |
| Retail and Services | 51 | 100 | 45 | 14 | 8 | 4 | 2 | 20 | 7 |
| Manual[a] | 64 | 100 | 14 | 13 | 6 | 14 | 9 | 33 | 11 |
| Agriculture[b] | 10 | 100 | 60 | 10 | 10 | 10 | x | — | 10 |
| Others, specified | 17 | 100 | 41 | 6 | — | 12 | — | 12 | 29 |
| Indefinite | 248 | 100 | [63][c] | 9 | 13 | 2 | 1 | 12 | x |
| Total | 690 | | | | | | | | |
| Sons of Non-farmers; Urban Schools | | | | | | | | | |
| High White Collar | 439 | 100 | 60 | 8 | x | 5 | 1 | 19 | 7 |
| High Technical | 512 | 100 | 47 | 14 | 6 | x | d | 26 | 7 |
| Clerical | 218 | 100 | 17 | 17 | 23 | 2 | — | 29 | 12 |
| Retail and Services | 179 | 100 | 40 | 18 | 11 | 2 | — | 25 | 4 |
| Manual[a] | 315 | 100 | 20 | 16 | 6 | 27 | d | 24 | 7 |
| Agriculture[b] | 11 | 100 | 18 | 9 | 18 | — | x | 27 | 28 |
| Managerial | 51 | 100 | 51 | x | 6 | 6 | — | 22 | 15 |
| Others, specified | 25 | 100 | 32 | 20 | 12 | 8 | — | 20 | 8 |
| Indefinite | 726 | 100 | [57][c] | 14 | 11 | 6 | — | 12 | x |
| Total | 2,476 | | | | | | | | |

[a]Manual here excludes technicians but includes skilled, semi-skilled, and traditional artisans and unskilled. Given the small numbers involved we have treated this as just two categories, skilled and other, within "manual." Thus skilled-to skilled and "other manual" to "other manual" are recorded here in the column "same," but shifts from other manual into skilled is recorded under "up within technical manual."

[b]Includes agricultural agents as well as farmers, fishermen, etc.

[c]This cell constitutes students unable to specify any classifiable occupational expectation or preference either for the immediate or the more distant future.

[d]Under 0.5 percent.

Minimal anticipated occupational shifts are evidenced among youth expecting to start out in agriculture and related employments--whether as practicing farmers (the decided majority) or as agricultural agents or, rare in our sample, as fishermen. The few non-farm youth attending urban schools who nevertheless stipulated agriculture as an entry employment were the exception in that most of them anticipated shifts out of agriculture thereafter. At the other extreme, sons of farmers attending urban schools were overwhelmingly inclined to expect to spend their lives in agriculture provided they started in such activities. Among sons of farmers attending rural schools, the group most likely to enter agriculture in the first place, two thirds expected to remain in this field throughout their lives. Perhaps the most interesting and unpredictable element in these responses is not that a clear majority did not anticipate a shift out of agriculture, but rather that so sizable a minority did explicitly anticipate moving out of the agricultural sector into some other sphere of activity.

Next to those starting in agriculture (and definitely at the top for non-farm youth in urban schools) in their expected adherence to initial type of occupation were those who stipulated an expectation of entry to higher white-collar positions (including professional non-technical occupations) in their first employment. These of course were in the main youth who expected to go on to university, though they were by no means entirely such young men. In this case error bias in coding the "peak" expectations operates to reduce the proportions entered as "no shift" cases

and exaggerates proportions under "other shifts." The fact remains, nevertheless, that many youth anticipating higher levels of non-professional white-collar employments to start with saw themselves as shifting later into one or another more independent undertaking, whether clearly or vaguely specified. In only one of the four subsamples distinguished in Table 6-7 did we find more than an occasional youth who saw himself as starting out in a managerial role in processing activities--sons of non-farmers attending urban schools. Their anticipated persistence or shift patterns resemble those of the youth expecting initially to enter the labor market in higher white-collar or professional occupations.

Whether they were sons of farmers or not, half of the youth attending urban schools and anticipating that their first jobs would be at higher technical levels (technical-professional and technician) expected to continue in that category throughout their lives. The single most important category into which both rural and urban youth starting with "higher technical" hoped or expected to move was to managerial posts in which they would continue to use and build on their technical qualifications. However, among the young men attending schools in rural settings but nevertheless anticipating entry to higher technical jobs there was a more diverse perception of subsequent destinations; also, the non-farm sons in rural schools were the exception among youth expecting to start in higher technical jobs in that their modal shift category was to non-technical higher white collar positions rather than managerial posts that could build upon technical know-how.

The only other category that approaches a 50 percent persistence rate is that for entry into retailing and services, and only among sons of non-farmers attending rural schools. Otherwise youth expecting to start in retailing or service occupations, like those expecting to start in clerical jobs or in manual work below the technician level, usually viewed this as a very temporary thing--especially if they were sons of farmers. The highest proportions of those anticipating entry to clerical positions who expected to stay in such jobs on into their mature years were among sons of non-farmers attending rural schools (26 percent), and the highest proportions of those anticipating entry in manual jobs below the technician level who expressed no anticipations of subsequent shifts were among sons of non-farmers attending urban schools (20 percent). These relative positions clearly reflect the labor markets most visible to rural and urban non-farm respectively as compared with relative visibilities for the other sub-samples.

Analysis at the level of detail in classifications of occupational types used in Table 6-7 was not feasible within course types except for students in the two general courses; in the vocational curricula there were too few job-entry cases in most cells not closely associated with those curricula. Table 6-8 therefore gives information paralleling Table 6-7 for students in the General B and the General A curricula only. The first, very evident finding is the much greater stability in career anticipations among the General B youth; for each anticipated type of entry job they were much

TABLE 6-8

ANTICIPATED INTRA-CAREER OCCUPATIONAL SHIFT PATTERNS (TYPE CLASSIFICATION III); STUDENTS IN GENERAL B AND GENERAL A CURRICULA

| Sub-samples and Expected Occupation Type on First Job (Type Classification III) | Total | | First-to-Peak Occupation Shift Categories | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number | Percent | No Shift | Shift to Managerial in Processing | Shift to High White Collar | Shift to High Technical; up Within Tech-manual[a] | Shift to Agriculture[b] | Other Shifts | Indefinite |
| General B Students | | | | | | | | | |
| High White Collar | 422 | 100 | 68 | 5 | x | 3 | 1 | 4 | 19 |
| High Technical | 270 | 100 | 50 | 8 | 9 | x | 1 | 6 | 26 |
| Clerical | 114 | 100 | 19 | 13 | 25 | 4 | 1 | 4 | 34 |
| Retail and Services | 43 | 100 | 54 | 14 | 14 | 2 | — | — | 16 |
| Manual[a] | 96 | 100 | 21 | 7 | 9 | 24 | 4 | 4 | 31 |
| Agriculture[b] | 21 | 100 | 24 | 5 | 28 | 10 | x | 14 | 20 |
| Managerial in Processing | 33 | 100 | 58 | x | 6 | 3 | — | 12 | 21 |
| Others, specified | 12 | 100 | 58 | 17 | — | — | — | — | 25 |
| Indefinite | 581 | 100 | [62][c] | 10 | 14 | 6 | d | 8 | x |
| Total | 1,662 | | | | | | | | |
| General A Students | | | | | | | | | |
| High White Collar | 59 | 100 | 37 | 8 | x | 3 | 2 | 12 | 37 |
| High Technical | 54 | 100 | 15 | 15 | 4 | x | 4 | 17 | 45 |
| Clerical | 55 | 100 | 13 | 20 | 11 | 2 | 4 | 7 | 43 |
| Retail and Services | 48 | 100 | 28 | 29 | 10 | 2 | — | 6 | 25 |
| Manual[a] | 47 | 100 | 13 | 23 | 4 | 19 | — | 6 | 35 |
| Agriculture[b] | 11 | 100 | 55 | 9 | — | — | — | — | 36 |
| Managerial in Processing | 8 | 100 | 25 | x | — | — | — | 38 | 38 |
| Others, specified | 3 | 100 | | | | | | | |
| Indefinite | 210 | 100 | [59][c] | 13 | 8 | 2 | 2 | 16 | x |
| Total | 495 | | | | | | | | |

[a]Manual here excludes technicians but includes skilled, semi-skilled and traditional artisans and unskilled. Given the small numbers involved we have treated this as just two categories; skilled and other, within "manual." Thus skilled-to skilled and "other manual to "other manual" are recorded here in the column "same," but shifts from other manual into skilled is recorded under "up within technical-manual."

[b]Includes agricultural agents as well as farmers, fishermen, etc.

[c]This cell constitutes students unable to specify any classifiable occupational expectation or preference either for the immediate or the more distant future.

[d]Under 0.5 percent.

more inclined to respond with essentially the same type of occupational goal for 20 to 30 years hence than were the youth in the General A curricula, and proportions unable to answer or answering vaguely with respect to future occupational expectations were greater among the General A youth for each category on expected entry job. This contrast is in part a reflection of the fact that the General B students were in the main anticipating a first job as from completion of higher education whereas among the General A youth the first job anticipations were typically for direct entry to the labor market. That is by no means the whole story, however; there is ample evidence, however we look at it, that the General A youth are the most uncertain and wavering about their career prospects in any case. They are also the most likely to look forward to managerial or proprietorship jobs in small processing activities after starting in some other way. Among General B and General A youth who expected to start out in manual jobs below the technician level a fourth and a fifth respectively looked forward to climbing the technical-manual ladder to higher technical employments as they acquired increasing experience and skill; in both cases a third of those anticipating initial manual employment were unable to formulate their ideas about the future. Entry in manual jobs is the only entry category in which the General B youth were very nearly as unclear about the future as those in the General A courses.

Skills are embodied in men, not men in skills. This fact has been too often ignored in the publications on "manpower planning." Moreover,

simplifications that identify individuals with "skills" can and undoubtedly do lead toward policies and practices in both education and the labor markets that reinforce evidence supportive of non-substitutability assumptions applied to men as well as "skills." But there are also forces operating against such rigidities. Japan is a dramatic example. A well developed vocational school system has survived every attempt to Americanise and "comprehensivise" the Japanese secondary schools. The tightness of the association between enrollment in the technical curricula and job entry in technical and skilled manual jobs was demonstrated in Table 6-2. At the same time, there has been a very open structure within big enterprises in Japan, with relatively little tradition of "job analysis" but much moving about of men and adaptive adjustments both in the organization of work in the enterprise and the reshaping of men to the tasks. These adaptations include substantial shifts over time in the mixture of learning at work and in school as technologies change and supplies of educated youth expand. There are wide domains within which individuals who start their working lives with one or another mixture of capabilities (including capabilities for learning) move about. But neither this situation nor the fading away of many features of the "dualism" that has characterized Japanese labor markets, alters the fact of limited mobility between "domains." Where men enter, and not merely their initial levels of skills and competencies, may significantly affect the communication networks in which they come to

participate[1] and the ensuing range of their activities. A simple categorization that approximates those domains but still in terms of "type of occupation" rather than type of employment status and employer is the four-fold categorization used many times before--into "white collar" (including non-technical professional and managerial), technical-manual, retail and services, and agriculture. The question we raise now is how far young men in their senior years in upper secondary schools anticipate shifts across these categories as against shifts and progress within them. We will look at these questions first considering how the patterns differ with college expectations, and secondly how they may differ by type of secondary-school course.

There are several ways of treating non-responses in such an analysis. We could have excluded all cases that gave inadequate responses on either first (entry) job or final (projected future) occupational expectations, but this throws away some important information. We could exclude only those giving no answer or inadequate and vague responses on entry jobs but include all others. In fact there are very few individuals who responded on ultimate job but not also on entry job, so this amounts almost to an exclusion of those with N. R. 's on both expected entry jobs and occupational expectations or hopes for the longer future. This was our choice in laying out the response patterns in Table 6-9, which adds the N. R. to N. R. category (total occupational non-response) numbers and proportions separately at the bottom of the table.

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[1]See Bowman (1970) and Hagerstrand (1963).

Before looking at that table in detail it will be useful, however, to give a few summary figures that cannot be derived directly from Table 6-9.

If one takes all who selected a particular type of occupation on either an entry-job or final occupation response, what proportion specified no other of the four major types of occupation? For youth taking examinations for entry into day universities these proportions ran:[1] white collar 86 percent, technical-manual 78 percent, retail-service 56 percent, and agriculture 72 percent. Taken in the same order the parallel proportions for youth taking examinations for night university ran 69 percent, 58 percent, 50 percent and 12 percent. Those for non-college men ran 56 percent, 74 percent, 52 percent and 77 percent. There was very little difference among these three groups with respect to the figures for retailing and service occupations; almost half of those mentioning such employment in every case specified an occupation in one of the other three main categories for the other response--whether that response referred to entry job or expected occupation in the longer future. There is a very sharp contrast between the small night-university group and the others on agriculture, reflecting the fact that the night-university aspirants who mentioned agriculture at all were hoping to prepare themselves to leave it. A similar explanation lies back of the

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[1]It should be remembered with respect to these figures that they include those specifying the indicated occupation type on one response but not specifying anything at all (i.e. N.R.) on the other; this means in the main that they include individuals giving the designated response for first job but no answer for final or later occupation.

comparatively low figure (compared, that is, with the university and the non-college groups) in proportions among those in the night-university category mentioning technical-manual employments who mentioned no other. Some of these young people were clearly striving to get ahead within the technical-manual sphere, but there was also a substantial proportion who hoped to shift out of technical-manual into other (mainly white-collar in the broad sense) positions. It is no accident that the highest persistence or non-shift figure was for day-university students specifying white-collar (including again non-technical professional and managerial) occupations for one or the other response; 86 percent of these youth specified no other sort of occupation whereas among the non-college students that figure drops to only 56 percent. Non-college youth were much more inclined than any others to look toward a shift out of manual into white collar employments.

Another way of looking at these response patterns is to ask what proportions out of a total group responded with a particular occupation category only, instead of what proportion making that response made no other. The proportions will of course be smaller when specified in this way, and even when we exclude from the denominator all with non-response throughout. The figures shown in Table 6-9 enable us to answer this question both according to students' college plans and according to curriculum; they are the sums of percentages in each column beside items under side headings A, B, D and G. The picture we get looks different from that discussed in the preceding paragraph because these figures reflect the relative frequencies of

TABLE 6-9

PERCENTAGE DISTRIBUTIONS OF ANTICIPATED OCCUPATIONAL SEQUENCES BY COLLEGE PLANS AND BY TYPE OF COURSE

| | Students in All Curricula | | | Course Types | | | | |
|---|---|---|---|---|---|---|---|---|
| | Taking Exams for Day University | Taking Exams for Night University | No College Intentions | General B | General A | Agriculture | Commerce | Technical |
| A. White Collar Only (including Professional and Managerial) | | | | | | | | |
| Levels 1, 2, 3 to 1, 2, 3 | 19 | 2 | * | 20 | 2 | 1 | 4 | 2 |
| Other to 1, 2, 3 and 1, 2, 3 to N. R. | 21 | 14 | 6 | 22 | 14 | 3 | 18 | 4 |
| Final 4, 5 and 4, 5 to N. R. | 16 | 24 | 14 | 16 | 29 | 9 | 34 | 8 |
| B. Technical-manual Only (including Engineers) | | | | | | | | |
| Levels 1, 2, 3 to 1, 2, 3 | 9 | 7 | 3 | 8 | * | 1 | 1 | 7 |
| Other to 1, 2, 3 and 1, 2, 3 to N. R. | 9 | 10 | 12 | 10 | 4 | 2 | 1 | 20 |
| Final 4, 5 and 4, 5 to N. R. | 4 | 6 | 8 | 4 | 8 | 2 | 3 | 12 |
| Final 6, 7, 8 | 1 | 2 | 3 | 1 | 5 | 2 | 2 | 2 |
| Other Technical-manual only (incl. levels N. R.) | 6 | 10 | 16 | 6 | 12 | 11 | 6 | 20 |
| C. White Collar Combinations with Technical-Manual | | | | | | | | |
| Final White Collar | 5 | 11 | 11 | 5 | 8 | 4 | 4 | 17 |
| Final Technical-Manual | 2 | 6 | 1 | 2 | 2 | 1 | 3 | 1 |
| D. Retail and Related at Levels 5, 6, 7, 8 Only | 1 | 3 | 4 | 1 | 4 | 3 | 12 | 2 |
| E. Retail Combinations with White Collar | 1 | 1 | 3 | 1 | 3 | 2 | 8 | 1 |
| F. Retail Combinations with Technical Manual | * | 1 | 1 | * | -- | 1 | 2 | 1 |
| G. Agriculture Only (including Agric. Officials; forestry and fishing) | 4 | * | 12 | 2 | 5 | 46 | 1 | 1 |
| H. Agriculture Combinations with Other Occupation Types | | | | | | | | |
| Agriculture Final | 1 | * | 1 | 1 | * | 3 | * | * |
| Other Final | 1 | 3 | 3 | 1 | 1 | 9 | * | * |
| I. Other | -- | -- | 2 | -- | 2 | -- | -- | 2 |
| Total: Percent | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number Reporting | 1,789 | 212 | 3,748 | 1,376 | 393 | 952 | 821 | 2,211 |
| Number NR → NR | 569 | 46 | 836 | 449 | 159 | 238 | 223 | 382 |
| Percent NR → NR | 24% | 18% | 18% | 24% | 29% | 20% | 21% | 15% |

*Under 0.5 percent.

selection of each occupation type as well as how far it was separated from others. In particular, the proportions of all respondents specifying technical-manual only now runs from 29 percent in the day-university group through 35 percent among night-university aspirants to 42 percent in the non-college category. Retail only and agriculture only are also higher in the non-college subsample, though together they are fewer even there than those mentioning white collar occupations only. Looking in further detail at the white-collar-only category among the non-college young people it is clear that their ambitions within this broad type of occupation were modest; presumably so were the white-collar ambitions of the 11 percent who anticipated shifts from manual entry jobs into white collar employments. Proportions who specifically anticipated moving across the broad occupational types are minimal mobility-anticipation estimates since they automatically exclude all cases in which there are any non-responses. On Table 6-9 this is the sum of C, E, F, H and I. For the day-university youth the total is 10 percent, for night-university aspirants 22 percent, and for non-college students again 22 percent. When it is recognized that these estimates say nothing in themselves about anticipated upward mobility within types and that they exclude all partial non-responses the implications for mobility aspirations during the working life become more impressive than a mere tenth or fifth might at first suggest. But especially important is the contrast in this respect between the day-university youth and those going directly into the labor markets (with or without part-time study).

The entries by curricula are on the whole self-explanatory once the general patterning already discussed has been observed, and detail comment on them would be redundant. Two aspects of the results do deserve special note, however. First is the extent to which youth from the various curricula specified technical-manual employments and those only. That proportion (the sum of percentages in set B for each column) run at 29 for General B, General A and the agricultural students alike. As we should expect, they are lowest for commerce students (12 percent), and highest for students in the technical course (61 percent). What is particularly interesting here is the twin facts that there is indeed a substantial minority in the non-technical curricula who anticipate technical-manual positions and have no definite expectation of any other and, more important perhaps, that two fifths of the technical-course youth who responded on either the entry-job or the final job question specified for atleast one of these a non-technical, non-maunal occupation. Of all the technical-course respondents 17 percent anticipated a shift from manual into white collar employments.

This brings us to the second point, concerning the extent to which youth in the various curricula specified jobs in two major type categories. For General B that figure adds up to 10 percent (matching the figure for day-university youth); for General A it is 16 percent, for agriculture students 20 percent (half of which are shifts out of agriculture), for commerce students 17 percent and for technical-course youth 23 percent. The General A youth show a lower proportion than would be expected relative to youth

from the other curricula because of the larger non-response proportions among them. On the other hand, there can be no question but that a sizable minority of technical course students wish and hope to shift to other sorts of occupations--despite the tight associations we observed in data with respect to actual first-job experiences of technical-school graduates and the fact that 85 percent of our technical-school respondents expected their first jobs to be in technical-manual employments.

These relationships are summed up from the perspective of "final" destinations, referring now only to those responding on occupational expectations 20-30 years hence, in Table 6-10. It is only among the university-directed youth and among those in the General B and commerce courses that as many as half of those looking ultimately to white collar employments expected to start out in white collar jobs. On the other hand, a vast majority of those specifying as their long-run expectations technical-manual employment expected to start in that general category. Among youth who expected ultimately to enter agriculture the bulk were of course in the agricultural course and in this case anticipated going into agriculture to start with--though a third did not see agriculture as their first job. The few youth in other curricula who indicated an ultimate interest in farming or other agricultural (and related) employments more often anticipated some other initial type of work. Unquestionably we are observing in these data the combined effects of perceived limitations with respect to acquisition of appropriate qualifications in crossing from one to another of the major types of

TABLE 6-10

PERSISTENCE IN ANTICIPATED MAJOR OCCUPATIONAL TYPE BY COLLEGE PLANS AND TYPE OF COURSE

| Final Anticipated Occupational Type and First Job | Students in All Curricula | | | Course Types | | | | |
|---|---|---|---|---|---|---|---|---|
| | Taking Exams for Day University | Taking Exams for Night University | No College Intentions | General B | General A | Agriculture | Commerce | Technical |
| White Collar Final: | | | | | | | | |
| Percent from White Collar | 64 | 50 | 26 | 65 | 34 | 22 | 51 | 21 |
| Percent from N. R. | 24 | 16 | 24 | 22 | 36 | 29 | 28 | 17 |
| Percent from Other | 22 | 34 | 50 | 13 | 30 | 49 | 21 | 62 |
| Total: Percent | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number | 919 | 84 | 1,130 | 727 | 168 | 167 | 450 | 621 |
| Technical-Manual Final: | | | | | | | | |
| Percent from Technical-Manual | 76 | 62 | 80 | 74 | 68 | 66 | 46 | 85 |
| Percent from N. R. | 14 | 18 | 11 | 17 | 21 | 20 | 19 | 9 |
| Percent from Other | 10 | 20 | 9 | 9 | 11 | 14 | 35 | 6 |
| Total: Percent | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number | 424 | 68 | 1,063 | 308 | 66 | 107 | 112 | 962 |
| Agricultural Final: | | | | | | | | |
| Percent from Agriculture | 55 | (14) | 64 | 47 | 42 | 66 | (50) | 18 |
| Percent from N. R. | 19 | -- | 15 | 16 | 26 | 15 | (17) | 18 |
| Percent from Other | 26 | (86) | 21 | 37 | 32 | 19 | (33) | 64 |
| Total: Percent | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Number | 69 | 7 | 447 | 32 | 19 | 449 | 6 | 17 |

occupation and the negative status implications of movement into the technical-manual category without major investments in acquisition of technical skills. How far youth coming through the technical curricula may be able to shift without losing ground will depend upon both the extent to which their basic training supported acquisition of language as well as mathematical skills and how far labor market structures and processes open up or impede opportunities for the development of contacts and the post-school learning experienced by youth going directly into white collar employments. These questions are of course universal ones, confounding attempts to assess what the various types of schools "really" do, but it is extremely important that evaluations of the economics of "technical" or of "vocational" education specify what in fact is in the curriculum and also how far and in what ways post-school opportunities are structured to reinforce and/or to break down barriers to further human resource development and utilization.[1]

## III. The Labor Markets and How They Are Perceived

What happens to young people after they enter the labor markets, what choices they make, what learning options are open to them, what investments

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[1]Work on the economics of vocational education is currently at a cross-roads. Most of the benefit-cost studies--one may almost say all of them--give entirely ambiguous results because of inadequate specification. Furthermore, the fact that this work has been done primarily in the United States adds to difficulties of interpretation because of the looseness of the curricula and their variability. It is hardly accidental that the most positive findings are in a study of junior technical college graduates, or that "verbal aptitudes" showed up as a critical constraint in the post-school careers of the technical-vocational youth studied by Edward Todd. Selected references to some of this work for the United States are given at the end of this chapter.

are made in them by their employers and what, directly or indirectly, they subsequently invest in themselves, will be conditioned in significant ways by the structures of labor markets and how those structures are perceived.

A basically simple idea with sweeping implications for analysis of just such problems is the distinction developed in work by Jacob Mincer and Gary Becker between what Becker termed "general" and "specific" skills.[1] That distinction is not in fact a description of the kind of skill per se, but rather of whether the man who acquires it in one place or institution can sell his services elsewhere or, instead, can make effective use of his skill and hence command some sort of return to it only in the institution or agency in which it was acquired. A skill might have extremely wide potential applications, but if legal institutions allowed for indenture arrangements so that a man given training would have to serve for some fairly extended period in repayment (hence at lower wages than his post-training "worth") it would still be "specific" in the Becker sense. The criterion is thus one of inter-firm mobility in carrying or selling the acquired skill. If the skill is or can be made "specific" the firm will be more ready to invest in provision of training, while the young man will be less willing to forego substantial earnings during the training period, since he will not be able to reap the returns in employment elsewhere. Both who "pays," directly or indirectly, for the initial investment in on-the-job learning or training and the extent and nature of those

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[1] See Becker (1962, 1964), Mincer (1958, 1962), Bowman (1963).

investments will be affected not only by inherent technical or cognitive aspects of particular skills but also by the extent to which (and ways in which) labor market institutions and customs strengthen ties of the employee to his employer or encourage inter-firm mobility--making for varying degrees in the continuum between the extremes of fully "general" to tightly "specific" economic components in human resource formation. To the extent that the "life commitment system" tightens the ties between employee and employer, atleast among those who find jobs in government or in the larger private corporations, we might expect that learning on the job would be to a greater degree economically "specific" in the Becker sense, and that the learning that took place would on that account also tend to be linked more directly to interests of the employer in development of competencies among his employees.

There is an important assymetry in the Becker-Mincer theoretical construct that must be considered at this point, however. The critical thing in their analysis was the freedom of the individual to move to other firms taking his skills with him. From the point of view of the employer, this becomes the likelihood that individuals will take advantage of such opportunites and the costs (and strategies) involved in holding those who have been trained with the firm. But the life commitment system in practice may be not so much commitment of the employee to his boss or patron, whatever the strength of such commitments may be, as the obligation on the employer to retain personnel ("members of the firm") indefinitely. This turns the

Becker-Mincer analysis around, and alters the nature of decision parameters for both employees and business executives. With a commitment to retain a man and to keep him at work (not merely provide severance pay), the firm has also a particularly strong incentive to ensure that its "permanent" workers do not become obsolete and to organize production processes and activities in such a way as to facilitate transitions in the process of technological change. This is an exaggerated sort of seniority system, made viable by combinations of early standard retirement ages for technical-manual personnel and many if not most of the middle-range white-collar employees on the one hand, systems of labor sub-contracting on the other.[1]

Meanwhile the rapid increase in proportions of younger cohorts completing upper secondary education has substantially changed the education and skill picture with respect to quality of the labor supply at the point of entry into the labor market. This in itself alters the kinds of training and learning that employers will find it worth their while to subsidize. The young men they now hire start at a different position in present skills and in the pace at which they can acquire new ones. Skills acquired increasingly in schools cannot be monopolized by any enterprise, but meanwhile technology continues to move at a rapid pace. The individual has an altered set of options reflecting changes in the labor market situation as well as in his own range of competencies at entry to that market. Under these evolving

[1] Also important is the practice of transferring older obsolete workers to or retaining them in obsolescing facilities.

circumstances how experienced men perceive the operations of the labor market and how their sons see these operations with reference to the relative advantages of one post-school path or mode of behavior versus another can be matters of considerable moment. Those perceptions reflect actual practices, however inaccurately; they also indicate the climate in which early career decisions are made and some of the criteria and the constraints that condition those decisions. It is on this account that we included in our survey instruments opinionnaires, given to both students and their fathers, dealing with aspects of the labor market that might be particularly relevant in early career decisions.

## Distributions of Labor-Market Perceptions; Students and Their Fathers

The opinionnaire items and the proportions of students expressing agreement (strongly or mildly) on each item are shown by type of curriculum in Table 6-11.[1] Parallel items were used with fathers, modified only to correct tense of verb or otherwise to set them in a context that would evoke meaningful responses. Regrettably, looking in retrospect, we did not include the two statements referring to advantages and disadvantages of

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[1] In this case the percentages are taken against all respondents, including the very few who failed to circle any of the five respondents (including can't say) as laid out on pages 10 and 11 of the student questionnaire (Appendix A). There were in fact very few non-responses on any of these statements--N. R.'s ran around 1 percent and even those circling "can't say" were in most instances comparatively few.

TABLE 6-11

PERCENTAGES OF STUDENTS AGREEING ON LABOR MARKET OPINIONNAIRE ITEMS BY TYPE OF COURSE*

| Opinionnaire Items | Course in Which Enrolled | | | | |
|---|---|---|---|---|---|
| | General B | General A | Agriculture | Commerce | Technical |
| a. It is better to work at a company where there is promise of promotion and pay increase even though it is a small company rather than to work at a big corporation where there is slight chance of recognition. | 65 | 76 | 73 | 74 | 70 |
| b. Prospective employers look with suspicion on a man who had made frequent job changes as lacking in qualities of loyalty. | 51 | 54 | 61 | 51 | 53 |
| c. Since the number of high school graduates has become so numerous recently, the advantages of being a high school graduate are going down | 37 | 36 | 38 | 31 | 40 |
| d. Among people who take a job directly after graduation from senior secondary school, career prospects will be better for those who have finished a technical than for those who have finished a general course. | 55 | 50 | 63 | 45 | 67 |
| e. It is desirable to expand one's experience by working in various companies and governmental organizations when one is young. | 30 | 34 | 35 | 32 | 29 |
| f. Those who often change their place of employment must start anew each time Therefore it is disadvantageous. | 53 | 64 | 68 | 52 | 56 |
| g. It is ridiculous to take a job in a small company even at a higher initial salary when one can get a job in a big corporation. | 30 | 22 | 27 | 27 | 23 |
| h. Those who graduated from the general course of high school can be trained to the need of a company. Therefore, the large corporation gives priority to those who graduated from the general course rather than those from the occupational courses. | 19 | 23 | 10 | 12 | 10 |

TABLE 6-11--Continued

| | | | | | |
|---|---|---|---|---|---|
| i. If one receives education in a company school, etc., it is difficult for him to change his job even though there is a profitable one since he feels moral obligation to the company. | 34 | 36 | 38 | 33 | 35 |
| j. With the number of college graduates increasing so much, it is difficult for even the college graduates to find jobs. Therefore the value of going to university and paying the high cost will be going down | 18 | 24 | 25 | 19 | 23 |
| k. With so many senior high school graduates now, a man will feel small unless he has at least graduated from senior high school | 46 | 48 | 45 | 48 | 43 |
| l. A man will lead a more fruitful life if he operates an independent business rather than being employed by others. | 62 | 66 | 78 | 72 | 63 |
| m. If a man has his own business, he has too many worries and troubles. Therefore, it might be better to be employed by a stable company if possible. | 18 | 20 | 16 | 13 | 14 |

Non-responses were under 2 percent for all items.

independent economic activity in the opinionnaire for employee fathers. With that unavoidable omission, Table 6-12 duplicates 6-11 except that the column headings refer to fathers of secondary school students and to fathers of children in the second grade of primary school, split in both cases into wage and salaried men and independent enterprisers. Farm fathers were not given these opinionnaires although they were asked a few related questions.

One of the prevalent stereotypes among the educated salaried men in academic and government posts who are most likely to write about such things--and to come in contact with their counterparts abroad--has been the notion that a job in a big firm was normally, ipso facto, preferrable to a job in a small one. Wage statistics prior to the 1960's confirmed these stereotypes,[1] as did profit and survival histories in the smaller as compared with the larger enterprises. But neither such stereotypes nor their statistical underpinnings are sufficient evidence that attitudes favoring the big concern are in fact pervasive. Furthermore, we were interested in identifying if possible what situations and experiences might be associated with deviance in greater or lesser degree from such a position. Two statements on the opinionnaire approach this point quite directly. Item (a) puts it in reverse, stipulating better chances of getting ahead in the small concern, while item (g) asserts the superiority of the big corporation as a

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[1] Over the past decade there have been some significant changes in this respect.

TABLE 6-12

PERCENTAGES OF FATHERS AGREEING ON LABOR-MARKET OPINIONNAIRE ITEMS*

| Opinionnaire Items | Fathers of Upper Secondary Students | | Fathers of Children in Primary Grade 2 | |
|---|---|---|---|---|
| | Wage and Salary Workers | Independent Enterprisers and Professionals | Wage and Salary Workers | Independent Enterprisers and Professionals |
| a. Favoring small Co. | 49 | 57 | 45 | 50 |
| b. "Rolling stones" suspect | 71 | 68 | 66 | 63 |
| c. Value Sec. School Declining | 43 | 31 | 39 | 31 |
| d. Tech. Course better jobs | 61 | 61 | 58 | 53 |
| e. Shop around on jobs when young | 21 | 27 | 19 | 28 |
| f. Job shifts slip backward | 77 | 82 | 75 | 79 |
| g. Foolish to work small Co. even at high pay | 47 | 34 | 45 | 33 |
| h. Corps. prefer Gen'l. graduates | 19 | 20 | 14 | 14 |
| i. Obligations if Co. school | 57 | 71 | 46 | 69 |
| j. Value Univ. education declining | 15 | 13 | 12 | 10 |
| k. Left out if no upper secondary education | 76 | 59 | 73 | 52 |
| l. Independent more fruitful | -- | 61 | -- | 55 |
| m. Own business worrying | -- | 14 | -- | 14 |

*Percentages are of those who replied; however, non-responses ran around 2 percent or less.

place in which to work. Substantial majorities of students, regardless of type of course, expressed agreement with the first statement and disagreement with the second, though the General B students were less ready to be swayed toward the smaller enterprise than were any others. Their parents were not nearly so sanguine with respect to the appeal of the small firm, nor were fathers of the primary-school children. Contracts between men in wage or salaried employment and independent enterprisers are in the direction to be expected (the former being more inclined toward the big firms) but the differences are remarkably small considering the contrast in perspective that should presumably stem from their respective situations. Answers on item (a) tended to be correlated (see Table 6-13) with those on item (l) also, though the last two items, (l) and (m), refer to independent status and not to size per se. The students were even more inclined than the "independent" fathers to regard running an independent business as leading to a "more fruitful life" than being employed by others. Students in the technical and commercial curricula were as inclined as the independent fathers to disagree with the notion that independence created "too many worries"; only a seventh expressed agreement. Among the General A and General B students the idea that independence could be too worrisome and employment by a stable company was better had a slightly greater appeal (to a fifth of the General A students).

Another set of questions focused primarily around one or another aspect of the crucial question of inter-firm mobility and related facets of the

"commitment" idea. Central in this matter are items (b), (e), (f), and (i). Statements (b) and (f) are phrased in a direction such that agreement implies that changing place of employment is on the whole a bad thing, and both of these questions drew atleast small majorities of students in agreement in all curricula, with stronger agreements among the General A and agriculture youth than among those in more urban situations. Fathers were much more emphatic about it, regardless of age or employment status; three fourths to four fifths saw changes in place of employment as undercutting the ladders of advance--item (f). Item (e), which suggested it was a good idea to shop around a bit while young, proved to be weak bait to the majority of upper-secondary students; regardless of type of course minorities of about a third were ready to agree with this deliberately slanted statement. Even fewer of their parents agreed--especially among the wage and salaried men.

Item (i), which refers to the "moral obligation" to stay with a firm that has provided training, was included in the opinionnaire in an attempt to tap attitudes that might fit into the pattern of mutual obligations that has often been set forth as distinctively Japanese culture and an integral part of the "life commitment" system. The fact that this sense of obligation may be far from pervasive has been suggested by several students of employer-worker relationships in Japan, though the issue is by no means settled. In any case, our findings display unambiguously the effects of the interest gap between students as prospective employees and independent businessmen; only a third of the students in all curricula were ready to accept such a sense of

obligation as against seventy percent of the independent enterprisers who asserted it. Fathers in wage and salaried employment fell between these extremes, with the younger among them closer to the students.

The remaining questions were related in one way or another either to perceptions of the economic value of education generally or to the advantages of one or another sort of education when it came to getting good jobs with promising futures. Two of the opinionnaire statements suggested that the economic value of secondary and of higher education respectively was declining because of the increasing numbers of youth continuing through these levels of schooling. Again the striking thing is the similarity rather than the differences in replies across types of secondary curricula, though commerce students were distinctly the least inclined to agree in this for
negative prognostication / secondary education and with the General B students they were the most strongly in disagreement when the question referred to universities. Generally the minorities agreeing with respect to secondary schools (30 to 40 percent) were almost double the proportions agreeing when higher education was at issue.

Almost half of the students fell in with the proposition that with so many senior highschool graduates a man would feel himself inferior if he did not join the flood--item (k). Employee parents like students were on the whole more inclined than independent enterprisers to accept the notion that with the rising proportions completing secondary education the value of that education would fall, but at the same time they were much more emphatic

about the problem of being left out of things, or "feeling small," if one did not join the upper-secondary stream. The latter position was dramatically emphasized by the wage and salaried men in particular, with 73 to 76 percent specifically agreeing.

The other two questions relating to education tapped attitudes as to whether upper-secondary graduates would have better job chances when they had taken vocational or when they had taken general courses. These questions were used earlier in the analysis of course preferences. Aside from the fact that attitudes expressed by both students and fathers accord with prevalent stereotypes there is little further to say on these responses--except perhaps to note the biasing effects of negative selectivity into terminal general curricula as compared with technical courses in Japan as in the United States.

## Attitude Indexes and Their Correlates

The opinionnaire items were thrown into components analyses both separately within the samples of students, employee fathers, and independent fathers and taking students and fathers all together, including with "fathers" the sample of fathers of primary-school children. The chief use we made of that analysis was as a basis for construction of attitude indexes, which we kept very simple. Two clusterings that turned up in the components analysis but were not reconstructed in attitude indexes claim at least passing comment, however. One of these, which was the second factor

on a four-factor rotation with the full set of student and father samples,[1] we labeled the "education-patron syndrome." High scores on this factor went to those who were most supportive of the value of education and disagreed with the suggestions that employers preferred graduates of technical to graduates of general courses and that it was legitimate or sensible to shop around for jobs, shifting employers to gain diversified experience when young--in other words, there were high positive loadings on (c), (d), (e), and (j).[2] The other factor pulled together those who defended terminal general curricula and agreed that shopping around to try out various jobs when young was a good thing and who disagreed on the item (i) statement with respect to "moral obligations." The counterpoint in these two clusters of traits is evident.

The attitude indexes that we constructed on the basis of results in the components analysis were four, taking the weights in each case from associated factor loadings. The simplest, designated V-ED in Table 6-14, was merely the average of the individual's scale value on items (c) and (j), since these two responses had very nearly the same loadings on the associated factor. The index G-T gave a weight of 7 to responses on item (d),

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[1] Zero-order correlations of .100 or better are shown for the separate matrices for students, employee fathers and independent fathers in Table 6-13, which provides clear enough evidence of the main patterns of association. The web of interrelationships is evidently closer over-all among the employee fathers than in the other groups, but the connections are generally the same from one sample to another, as were the factors thrown up by the components analyses.

[2] The scale values on opinionnaire items ran from 1 for strongly agree through 3 for undecided to 5 for strongly disagree.

# TABLE 6-13

UNIVARIATE STATISTICS AND ZERO-ORDER CORRELATIONS AMONG ITEMS ON LABOR-MARKET PERCEPTIONS WITHIN SAMPLES FOR UPPER SECONDARY STUDENTS, FOR "FATHERS" IN INDEPENDENT (NON-FARM) EMPLOYMENT, AND FOR "FATHERS" IN WAGE AND SALARIED EMPLOYMENT*

| Mean | Standard Deviation | Opinionnaire Items (as in Table 6-14) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Students (N= 7,207)** | | a | b | c | d | e | f | g | h | i | j | k | l | m |
| a 2.10 | 1.16 | ... | | | | | | -.114 | | | | | +.201 | |
| b 2.66 | 1.31 | | ... | +.131 | +.119 | -.105 | +.342 | +.118 | | | | +.158 | | |
| c 3.11 | 1.30 | | +.131 | ... | +.130 | | +.148 | | | | | .267 | | |
| d 2.46 | 1.29 | | +.119 | +.130 | ... | | +.130 | | -.149 | | +,125 | | | |
| e 3.20 | 1.21 | | -.105 | | | ... | -.164 | | | | | | | |
| f 2.60 | 1.26 | | +.342 | +.148 | +.130 | -.164 | ... | +.146 | | +.107 | +.104 | +.169 | | +.150 |
| g 3.33 | 1.16 | -.114 | +.118 | | | | +.146 | ... | | | | +.142 | | +.157 |
| h 3.64 | 0.98 | | | | -.149 | | | | ... | | | | | |
| i 3.17 | 1.13 | | | | | | +.107 | | | ... | | +.157 | | |
| j 3.55 | 1.18 | | | | +.125 | | +.104 | | | | ... | | | +.112 |
| k 2.96 | 1.27 | | +.158 | +.267 | | | +.169 | +.142 | | +.157 | | ... | | +.143 |
| l 2.16 | 1.20 | | | | | | | | | | | | [-.321] | |
| m 3.68 | 1.05 | | | | | | | | | | | | | |
| **Fathers in Independent Employments (N= 3,977)** | | | | | | | | | | | | | | |
| a 2.67 | 0.97 | ... | +.114 | | +.127 | | +.128 | | | | | | +.172 | |
| b 2.43 | 1.08 | +.114 | ... | | +.181 | -.105 | +.279 | +.135 | | | | +.198 | +.216 | |
| c 3.10 | 0.98 | | | ... | +.180 | | | | | | +.167 | +.128 | | |
| d 2.69 | 0.92 | +.127 | +.181 | +.180 | ... | | +.181 | | -.123 | | | +.182 | +.211 | |
| e 3.18 | 0.89 | | -.105 | | | ... | -.120 | | +.135 | | | | | |
| f 2.28 | 1.03 | +.128 | +.279 | | +.181 | -.120 | ... | +.166 | | | | +.223 | +.194 | |
| g 3.00 | 1.02 | | +.135 | | | | +.166 | ... | | | | +.176 | | |
| h 3.23 | 0.78 | | | | -.123 | +.135 | | | ... | | +.145 | | | |
| i 2.45 | 1.13 | | | | | | | | | ... | +.104 | +.126 | | |
| j 3.41 | 0.91 | | | +.167 | | | | | +.145 | +.104 | ... | | | |
| k 2.50 | 0.98 | | +.198 | +.128 | +.182 | | +.223 | +.176 | | +.126 | | ... | +.294 | |
| l 2.44 | 1.09 | | | | | | | | | | | | | [-.255] |
| m 3.54 | 0.98 | | | | | | | | | | | | | |
| **Fathers in Wage and Salaried Employment (N= 7,695)** | | | | | | | | | | | | | | |
| a 2.66 | 1.21 | ... | | | | | | -.125 | | | | | | |
| b 2.32 | 1.17 | | ... | +.168 | +.125 | | +.334 | +.156 | | +.149 | | +.192 | | |
| c 3.03 | 1.24 | | +.168 | ... | +.223 | | +.138 | +.163 | | +.122 | +.158 | +.225 | | |
| d 2.44 | 1.16 | | +.125 | +.223 | ... | | +.176 | +.150 | | +.135 | +.110 | +.200 | | |
| e 3.50 | 1.09 | | | | | ... | -.137 | | +.100 | | +.153 | | | |
| f 2.13 | 1.10 | | +.334 | +.138 | +.176 | -.137 | ... | +.225 | | +.157 | | +.223 | | |
| g 2.81 | 1.20 | -.125 | +.156 | +.163 | +.150 | | +.225 | ... | | +.115 | | +.197 | | |
| h 3.41 | 0.93 | | | | | +.100 | | | ... | | +.121 | | | |
| i 2.80 | 1.08 | | +.149 | +.122 | +.135 | | +.157 | +.115 | | ... | | +.204 | | |
| j 3.70 | 0.96 | | | +.158 | +.110 | +.153 | | | +.121 | | ... | | | |
| k 2.24 | 1.13 | | +.192 | +.225 | +.200 | | +.223 | +.197 | | +.204 | | ... | | |

*"Fathers" in this case refers to fathers of both seniors in secondary schools and second-graders in primary schools. Non-responses on an item were valued at the mean for that item in each sample.

TABLE 6-14

UNIVARIATE STATISTICS AND ZERO-ORDER CORRELATIONS BETWEEN INDEXES OF LABOR-MARKET PERCEPTIONS (BY STUDENTS AND BY FATHERS) AND VARIABLES RELATING TO LOCATION, SCHOOL-TYPE, CLASSROOM COMPOSITION, AND PARENTAL BACKGROUNDS; MATCHED FATHER-SON SAMPLE EXCLUDING FARMERS

| | MOB = Inter-firm Mobility | | BIG = Preference for Bigness | | V-ED = Economic Value of Education | | G-T = Advantage of General Over Technical Schooling | |
|---|---|---|---|---|---|---|---|---|
| | Students | Fathers | Students | Fathers | Students | Fathers | Students | Fathers |
| Mean | 2.772 | 2.334 | 2.362 | 2.843 | 3.363 | 3.315 | 2.405 | 2.508 |
| Standard Deviation | .814 | .706 | .861 | 886 | .918 | .828 | .852 | .752 |
| MOB-Students | ... | | | | | | | |
| MOB-Fathers | .131 | ... | | | | | | |
| BIG-Students | -.074 | -.002 | ... | | | | | |
| BIG-Fathers | -.015 | -.093 | .101 | ... | | | | |
| V-ED-Students | .165 | .024 | -.000 | -.015 | ... | | | |
| V-ED-Fathers | .038 | .072 | - 019 | -.016 | .152 | ... | | |
| G-T-Students | .074 | .023 | .066 | -.015 | .045 | .035 | ... | |
| G-T-Fathers | .013 | .092 | .007 | .021 | .023 | .087 | .130 | ... |
| Other Variables with one or more correlations of .100 or better[a] | | | | | | | | |
| POP | .132 | .056 | .014 | -.021 | .047 | -.020 | -.070 | -.068 |
| FREQ-M | .137 | .031 | .025 | -.022 | .057 | -.019 | -.013 | -.071 |
| CLED LO | -.029 | .069 | -.099 | -.050 | -.056 | -.117 | -.098 | -.066 |
| CLED HI | -.022 | -.060 | .082 | .045 | .042 | .119 | .085 | .089 |
| CLO-WC | .020 | -.081 | .070 | .028 | .059 | .110 | .127 | .098 |
| CLO-RET | .067 | -.020 | -.012 | -.015 | .102 | .042 | .039 | .033 |
| CLO-SK | .042 | .044 | .015 | -.016 | .003 | -.064 | -.063 | -.125 |
| CLO-AG | -.111 | -.013 | -.043 | .009 | -.071 | -.023 | .041 | .046 |
| GEN-A | -.026 | .007 | -.019 | -.015 | -.029 | -.004 | .116 | .040 |
| TECH | -.009 | .090 | -.026 | -.013 | -.058 | -.102 | -.211 | -.171 |
| GEN-B | .023 | -.085 | .072 | .038 | .045 | .119 | .120 | .138 |
| F-SELF | .002 | -.061 | .057 | .065 | .007 | .017 | -.014 | -.123 |

[a]No other school, location or background variables were correlated at .100 or better (positive or negative) with the four indicators of labor-market perceptions among either students or fathers.

concerning employer preferences for technical-school graduates, and a weight of 8 on the reversed-sign responses to item (h); positive values on this index indicate support for the proposition that general education is preferred. A third index designated BIG, measures preference for the big employer, with a weight of .807 on item (a) and a reversed-sign weight of .649 on item (g). The most interesting and complex of the indexes is that we designate as MOB, or the job-mobility attitude index. The heaviest loadings on the associated factor were .735 on item (f) concerning the set-backs associated with changing place of employment and .716 on item (b); since positive signs are for disagreement, they imply support of moving about. Less heavily weighted items included in this index are (i), the "moral obligation" item, with a loading of .335, and item (e) concerning shopping around for experience when one is young (with a reversed sign). Reversed-sign entries were in fact converted to take the desired direction simply by subtracting them from 6, so that the range of values on all indexes was from a minimum of 1 to a maximum of 5; a value of 3.000 is at the neutral midpoint. Values below 3.000 indicate net leanings toward disagreement, values above 3.000 toward agreement with the position or direction specified by definition of the index. Thus the net leaning was toward the positive or upper side on V-ED for both students and fathers, it was against MOB, especially among fathers, and against BIG, especially among students.

A number of hypotheses were put forward concerning relationships

that might be anticipated between student ratings on these indexes and the other sorts of variables that have been used in previous regressions, but with very limited success. The best predictor of how a student would stand was in most cases his father's attitude. This is a clean finding, no direct influence was possible since students filled out their opinionnaires before their fathers saw them. Even if fathers of the secondary-school youth talked with their sons about the parent questionnaire forms it seems unlikely that parents' answers to questions such as these would have been biased by sons' opinions. Other variables that came through with correlations of at least .100 with one or more of the indexes (for either fathers or sons) are included in Table 6-14, along with the matrix for father against son responses. This table includes some class-room composition variables that were not usually used elsewhere, referring to propqrtions of fathers of classmates who were in retailing, who were skilled manual workers, or who were in agriculture. None of the variables relating to the education or occupation of a youth's own father came through in the zero-order correlations, however, with the lone exception that being in independent business was associated for fathers (but not their sons) with a negative position on the index G-T (favoring terminal general education). Furthermore, neither the commerce nor the agricultural students were distinctive relative to other groups on any of these attitudes. The only place where type of course seemed to make any difference was in the value placed on education by fathers (positive for fathers of the General B students, negative for fathers of those in the

technical curricula), and in attitudes relating to general versus technical education (among both sons and their fathers).

A few other interesting relationships did show up, albeit weak ones. As can be seen in the first column of Table 6-14, the bigger the population, the closer the metropolitan linkages, and the smaller the proportion of classmates whose fathers were farmers, the more inclined was a student to take a relatively independent position in favor of free movement from one employer to another. No variables whatsoever accounted for any part of the variance in responses with respect to the big versus the small employer, and even the father-son correlation on this index was only .101. Whether sons saw the spread of schooling as depressing its value or not remains totally unexplained, though parental support of the continuing value of education was positively associated with class-room composition as measured by proportions of fathers who were highly educated or who were in white collar employment; the association was correspondingly negative against proportions of parents with compulsory schooling only. Understandably, sons of white-collar men tended to be supportive of general as against technical education and where there was a relatively large contingent of skilled manual workers among the fathers those fathers were supportive of the technical curricula. But putting this all together the fact remains that variations in these attitudes are quite idiosyncratic so far as associations with most of the family background school or environmental variables are concerned.

## IV. Concerning Earning Paths and Their Meanings

Thirty-five years ago Ray Walsh[1] undertook a study that was the first of a new genre--even though by no means the first use of the concept of "human capital," which goes back explicitly at least to William Petty in the seventeenth century. What Walsh set out to do was to test a narrowly defined economic-rationality hypothesis with respect to investments by individuals in themselves. His approach was to compare observed age-earnings data for men with one or another type of higher training with respective costs of that training to determine whether supplies tended generally to adjust to demands for highly and variously educated people so that the advantages of choosing one option as compared with another (or no higher education) would tend to balance out at the margins. More recent studies of investments in education have refined and improved upon Walsh's procedures, but most of them, like his, have drawn upon age cross-section earnings or income data, appropriately subdivided by sex, education and sometimes by other pertinent attributes as well. Usually the cross-section data have been converted into quasi-longitudinal estimates, if at all, by application of assumed growth rates; actual longitudinal studies and cohort analyses are as yet few, though they are appearing with new studies where data permit--mainly in the United States.[2]

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[1] See Walsh (1935).

[2] Hollister (1970), Hause (1971).

The theoretical underpinnings of all of these studies is in a decision theory that deals with expectations. Nevertheless, with the exception of work by Robert Myers,[1] concerning decisions with respect to study abroad and return migration among young men from less developed nations, the direct investigation of expectations has been avoided. There are evident reasons for this--among them that no one really believes that individuals can accurately predict their own future earnings, that most economists are themselves unsophisticated in attitude and expectation research, and that they are also (quite rightly) critical of the frequent mis-specifications, misinterpretations and distortions of presumed economic models in the hands of sociological researchers. Finding direct studies of expectations either inherently uncongenial or frustrating if not actually misleading, there has been a tendency to have recourse to what is sometimes termed the "as if" approach to behavioral studies, closely related to the notion of "revealed preferences." Unfortunately, however, the strict adherence to behavioral data does not provide escape from mis-specifications of variables and distorted interpretations of findings. Either way, with direct expectational research or "as if" behavioral analyses, we are dealing with complex and elusive problems. In the end perhaps it would be better to plough in with both approaches and play them against each other. This in fact we have done, but the major part of the non-expectational work

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[1] In his doctoral dissertation of the University of Chicago, 1970, and in his forthcoming book: Myers (1971).

has been financed by the Carnegie Foundation and is reported elsewhere; we draw upon that work only where it is essential in evaluating the expectational data included in the present report. Fortunately what matters analytically is not any absolute levels of earnings anticipations but rather the rankings of those anticipations, the factors related to those rankings, and the shapes of anticipated earnings streams. A brief digression concerning shapes of income streams and their interpretations is consequently in order.

## Theory, Fact, and Relationships between Post-School Learning and Earning Paths

Analysis of the shapes of life-earnings paths has evoked increasing interest since Becker and Mincer extended applications of capital theory to include not only education but also post-school investments in one's self and investments of firms in their employees. So far as on-the-job learning and training are concerned, the Becker-Mincer analysis distinguishes the extent to which a skill is "specific" or "general" not by the nature of the skill per se but rather by how far the carrier of that skill must remain committed to the firm in which it is learned if he is to use it ("specific"), how far he may have a real option of recouping on his higher qualifications by selling his services elsewhere ("general"). According to this theoretical model we should expect that for any given amount of skill acquisition the age-income stream would be steeper the larger the proportion of the learning that was "Becker-general," since the individual would have to bear the initial costs instead of sharing those

costs with his employer. To put this in the simplest everyday terms, when a young man chooses to take a job that pays him relatively little at the start but promises higher pay later on instead of taking a job that provides high immediate economic rewards but adds little or nothing to his future earning power he is incurring initial costs in foregone earnings with the expectation that he will thereby gain higher earnings in the future. But in the Becker-Mincer world he will be more inclined to do this if he knows that he will be able to take the skill he acquires with him to other employers; for the same reason his employer will be able to hire him for less and will have no incentive to pay the costs of providing a training and learning experience on which the firm cannot expect any profit. This is "Becker-general" training in having a "general" saleability. Unfortunately, however, we are left with more ambiguous implications as soon as we introduce a situation that is left out of the Becker model but is especially important in Japan and far more important than is often assumed in the United States as well--the situation in which it is the freedom of the firm to get rid of a man rather than the ease with which the individual may leave the firm that is the critical concern; this is the essence of both the life-commitment system in Japan and seniority agreements in the United States. Again, expectations aside most of our work on this and related matters has been and is being carried out under a grant from the Carnegie Foundation and is not reproduced here. A few assertive propositions derived from that work are necessary, however.

First, where the life-commitment system is strong the firm will have comparatively strong incentives to invest in training of employees and in particular to counteract obsolescence. But this does not necessarily have any flattening effect on the earnings path as compared with Becker-general training, for assurance of continuing work in the enterprise alters the parameters of individual job choices. When contracts are in effect for periods of such long duration the whole Becker-Mincer explanation of comparative shapes of earnings streams is shaken.[1]

Second, the assumptions on which the prediction of comparatively steep earnings paths for Becker-general training were based took all of this training or learning as something to be costed at each stage in the working life. It totally ignores the fact, for example, that in a dynamic economy one of the chief things the employer may be looking for is indeed the capacity to learn rapidly and adapt to change. If ability to learn is itself the skill that is being sold, it seems highlyprobable that learning of a kind that contributes to future earning power will be a costless complementary result. Implicit choices between jobs with high pay but little learning or acquisition of "human capital" and jobs with lower pay but much accumulation of increased skills are then less pervasive. Even where all of the most extreme "Becker-general" conditions of full mobility of individuals among firms are fully met--and even

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[1]This does not mean that the decision theory itself is undermined.

if we add to this full freedom of employers to hire and lay off their workers without sacrifice--there may be relatively little "opportunity-cost" investment of the individual in his own post-school learning. Furthermore, the dynamic character of the economy will lead also to higher wages and inter-firm mobility with competitive bidding for qualified new graduates of the secondary and higher institutions. Thus dynamic change may tend to flatten cross-section age-earnings patterns and it may also flatten true cohort streams relative to the shapes of earnings streams experienced by earlier cohorts.

Third, there is little that could be said a priori with respect to earnings paths anticipated by youth who expect to become independent enterprisers--or for that matter to be farm operators--except that it would be surprising if they did not anticipate relatively great increases in income between the job entry point and their mature years. Sheer optimism with respect to business success would have this effect. But in addition the saving and investment decisions are in this case compounded of investments not only in one's self but also in other aspects of the enterprise. And learning is built into anticipated career experience inextricably from the start.

Expected Earnings Paths and the Higher Education Decision

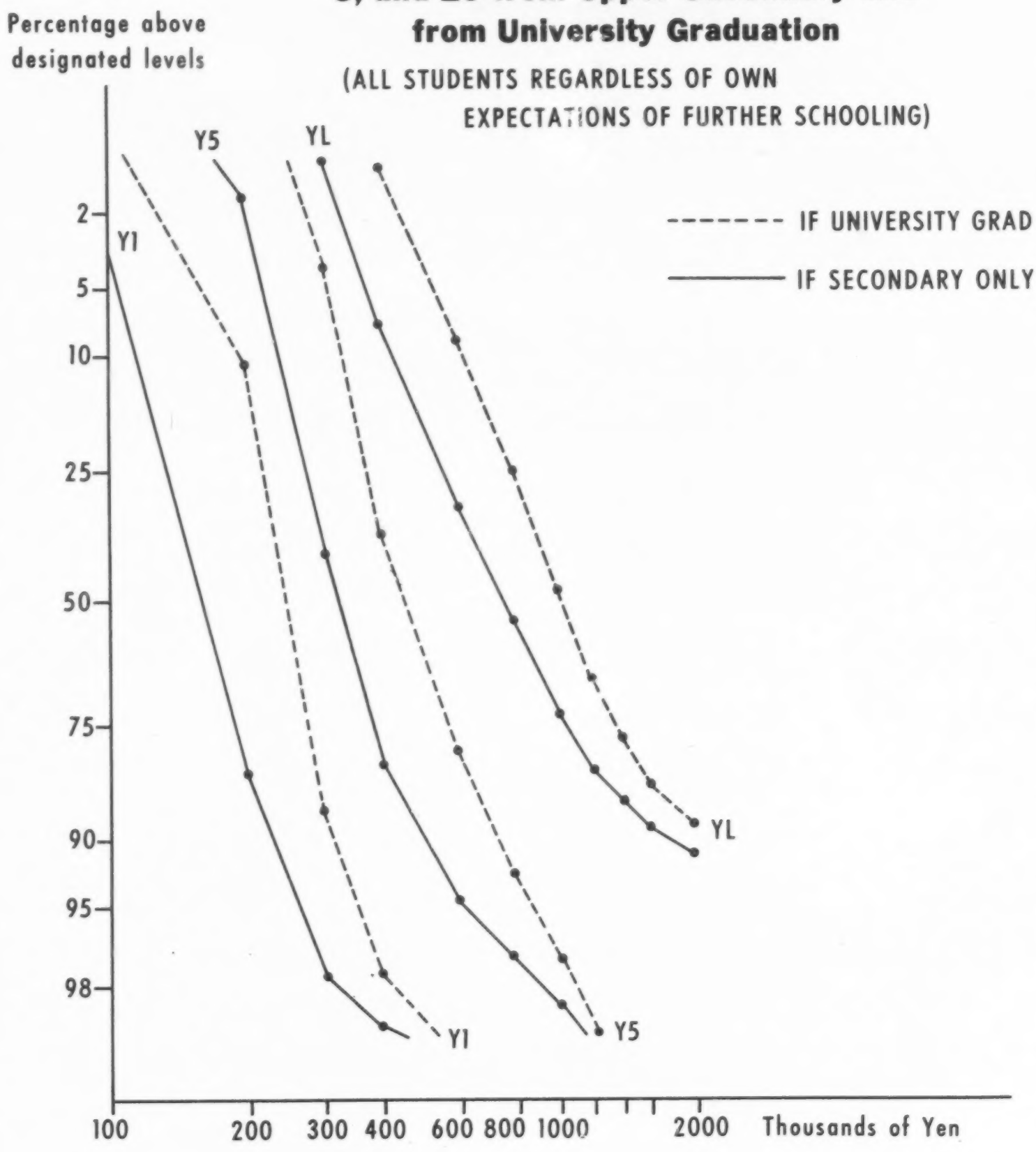
In Chapter IV we showed that there were indeed marked contrasts between the earnings anticipated for 20 to 30 years hence on the assumption of labor-market entry direct from upper secondary schools as compared with predictions

on the assumption of continuation through higher education. This contrast was substantial and unambiguous whether or not the student anticipated going on to university. It showed up clearly both in the cumulative probit distributions of expected ultimate incomes among college-directed and non-college youth and in the regression analyses (Figures 4-2 and Table 4-21). Also in Chapter IV we made a preliminary comparison using an index of estimated net advantage of continuing to university, based upon classroom mean estimates for anticipated earnings at entry to the labor force from upper-secondary school and estimated undiscounted life-earnings differences between the non-college and the college career paths. The results of that exploration were summarized in Table 4-25. For all students combined, and especially for all rural students, there was a definite contrast between those taking examinations and those not doing so; the former definitely scored higher mean values on their perceived university-advantage index than did those not going on to college. However, this contrast did not hold up among youth in the technical secondary schools or among youth attending urban agricultural schools. (The contrast was extreme for the rural students in agricultural courses of semi-comprehensive schools.)

A fuller picture of the way youth in the last year of upper-secondary school perceived likely earnings paths with and without higher education is presented in Figures 6-5 and 6-6, using the adjusted sample with proper weighting by type of course. In addition to the expected first-year and mature (YL) earnings expectations for 20-30 years hence, these charts include responses

**Fig. 6-5**

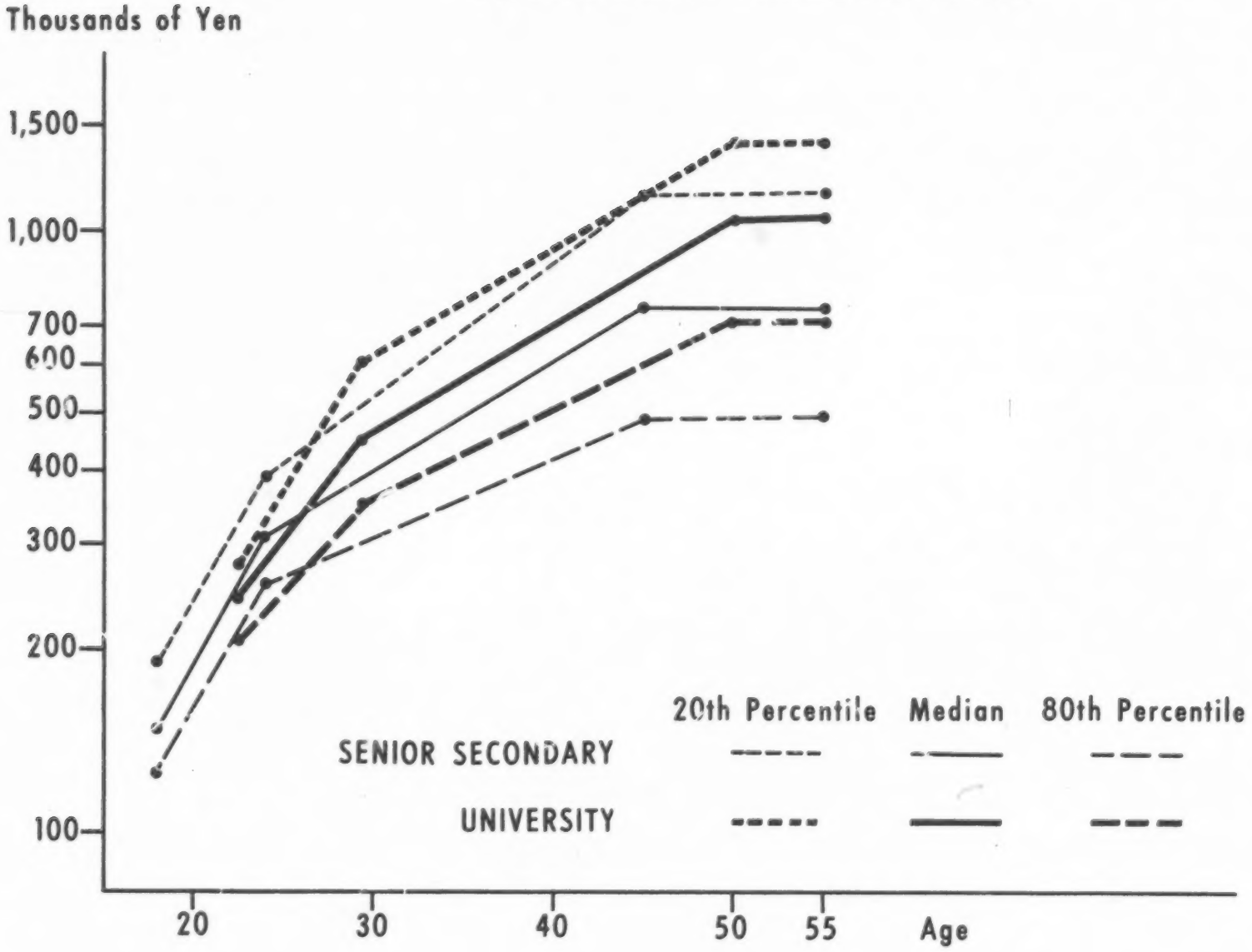
**Distributions of Anticipated Future Income at Years 1, 5, and 20 from Upper Secondary and from University Graduation**



## Fig. 6-6

## Anticipated Life-Income Paths with and without Higher Education

(ALL STUDENTS ON EACH SET, REGARDLESS OF OWN EXPECTATIONS OF FURTHER SCHOOLING)



for five years after entry to the labor market, which enables us to distinguish between those anticipating larger or lesser parts of their increases in earnings to come during earlier years in the labor force. Since the income scale is logarithmic in Figures 6-5 and 6-6 equal distances between curves imply equal ratios, not equal absolute amounts.

Several features of these distributions are readily observed. First, at the medians the relative gains are slightly greater between the fifth and the mature (YL) dates than between the first and fifth year. This is characteristic of both the sequence assuming labor-market entry from upper-secondary school and that assuming university education. However, as Figure 6-6 clearly shows, the anticipated per annum rate of increase in earnings with age is less for the later than for the initial years. This is in accord with actual paths as observed from cross-section age-earnings data and also in such cohort data as we have been able to put together. It is consistent also with any plausible a priori expectation concerning the timing of post-school investments in learning at work, whether those investments are individual "opportunity-cost investments" or investments in its personnel by the business enterprise.

Second, the upper tails of these distributions stretch out more for the secondary than for the university options at the five-year and the mature-year ages. This almost certainly reflects the fact that the non-college youth with the highest income anticipations are disproportionately young men who look forward to making those high incomes in independent or family undertakings.

It is no accident, of course, that this stretching out in the Pareto tails of the distributions for the secondary-school entry group increases dramatically as we move from the first through the fifth to the mature years.

Third, in the vicinity of the tenth percentile on these distributions the bigger relative gain for the terminal upper-secondary option is between the first and fifth year out whereas this is not the case for the college option. The contrast is not sharp enough to build too much interpretation upon it, but it is consistent at least with observable patterns among wage and salaried men in private firms of 30 or more employees and in the government bureaucracies.

Fourth, as Figure 6-6 clearly shows, the incomes anticipated for the fifth year after entering the labor market from upper-secondary school generally exceed what these youth perceived as likely entry wages from completion of higher education, but shortly thereafter the curves intersect and those drawn assuming university graduation come to exceed those drawn assuming that the upper-secondary schooling was terminal. This is repeated at the 20th percentile, the median and the 80th percentile, and is again in line with age cross-section data for wage and salaried employees in private enterprise.

Rates of return to investments in higher education (and net present values of such investments) depend upon relationships between the absolute net benefit streams, beyond the point of intersection of the university and

upper-secondary curves, and the net cost streams (plus direct educational outlays) to the left of that intersection. The relationships at a zero discount rate can be read visually off of Figure 6-7 by a comparison of the relevant areas. In this case we have plotted the median stream for the higher education option taking realization of "peak" earnings at two dates, the first matching the upper-secondary stream, at age 45, and the second deferring this peak five years, to age 50. Taking the earlier date increases the estimated internal rate of return considerably. Ignoring direct outlays on higher education (tuition payments and so on), which would of course cut back the internal rate of return, we come out with estimates for the internal rates implied by the two variants shown in Figure 6-7 of 8 and 12 percent. These estimates are implicitly corrected for ability insofar as the students were in fact comparing options for themselves individually in stating their perceptions of those options. The rates are lower than university estimates made for 1966 from official age-cross-section data on wage and salaried employees in the private sector, but they are of approximately the same order of magnitude after a modest correction for ability in the estimates of rates of return using the Ministry of Labor materials.[1]

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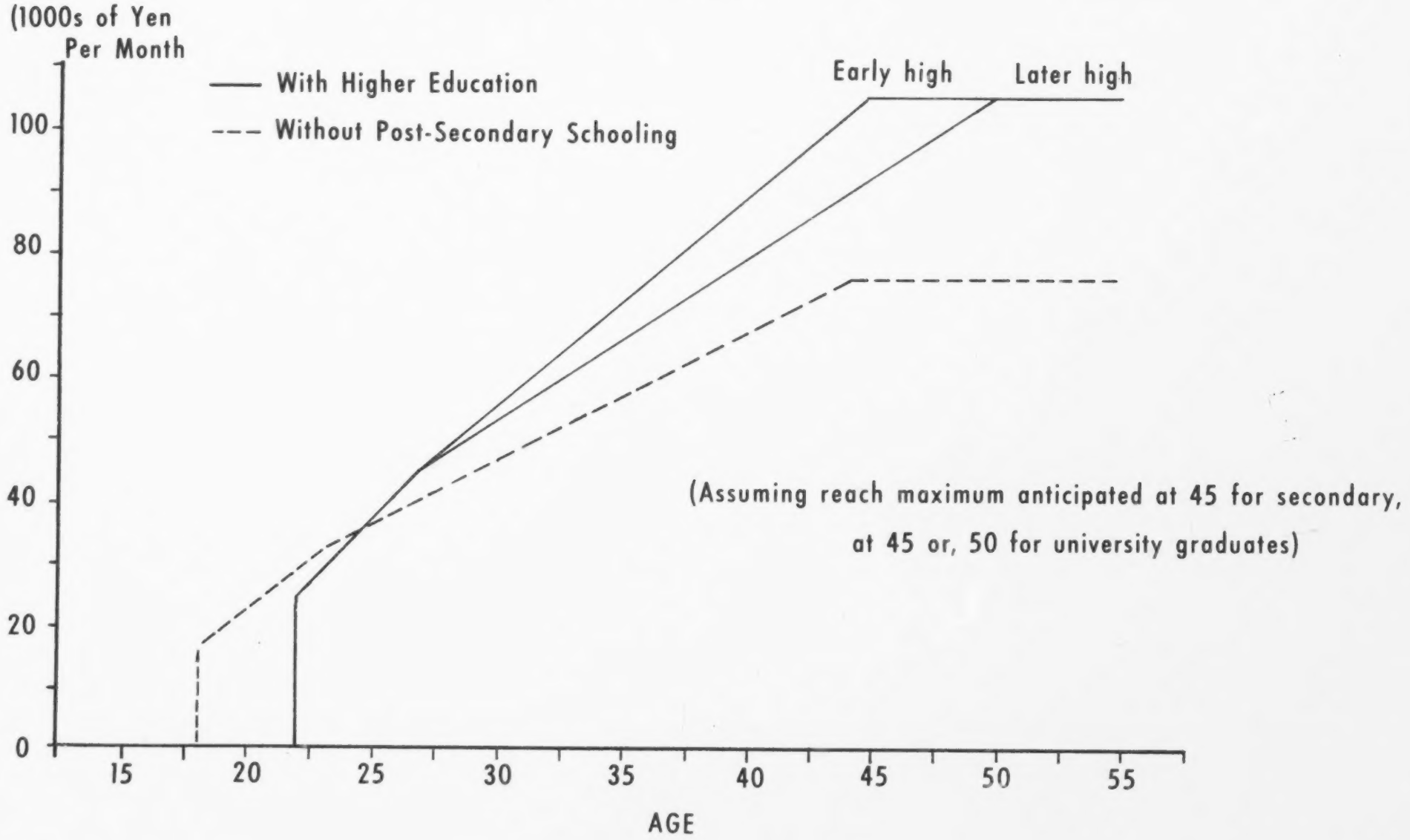
[1] Some of the findings were included in Bowman, "Mass Elites on the Threshold of the 1970's" (1970).

**Fig. 6–7**

**Median Anticipated Life Earning Paths**

**With and Without Higher Education**

**(All Students)**



Earning-Anticipation Patterns and
Post-Secondary Learning Options

Thus far we have viewed anticipated learning paths as though the rank orders of expectations for each of the three date points were identical, ignoring individual shifts in relative response positions. In fact of course there was no such perfect rank order correlation between year 1 expectations, those for year 5, and those for twenty to thirty years hence--designated as Y1, Y5 and YL respectively. How these levels and ratios between them in fact were related is summed up in the upper parts of Tables 6-15 and 6-16. Data here refer entirely to individual anticipations specified for university or upper-secondary paths according to whether the respondent took or did not take examinations respectively. This being the case we should expect a level effect corresponding to the college non-college contrasts at year 1, quite aside from shapes of anticipated streams thereafter. Table 6-15 refers to the adjusted sample for all students, Table 6-16 summarizes zero-order relationships within course types.

Looking just at associations among Y1, Y5 and YL responses we of course find the lowest correlations to be those between Y1 and YL; these run from a low of .200 for the agriculture students to a high of .327 in the commerce course; for all students combined the figure is .286. Relationships of Y1 with Y5 are the strongest throughout, but they still leave room for substantial differences in relationships between Y1 and Y5; even in

TABLE 6-15

ZERO-ORDER CORRELATIONS AMONG VARIABLES RELATING TO EARNINGS EXPECTATIONS AND BETWEEN EARNINGS EXPECTATIONS AND LEARNING ANTICIPATIONS; ALL STUDENTS, ADJUSTED SAMPLE

| | Expected Earnings Variables | | | | | |
|---|---|---|---|---|---|---|
| | YL | Log YL | Y1 | Y5 | YL/Y1 | (Y5-Y1)/(YL-Y1) |
| YL | ... | .958 | .286 | .543 | .760 | -.415 |
| Log YL | | ... | .282 | .533 | .719 | -.474 |
| Y1(Entry Y) | | | ... | .679 | -.168 | -.042 |
| Y5 (5-year Y) | | | | ... | .132 | .247 |
| YL/Y1 | | | | | ... | -.407 |
| (Y5-Y1)/(YL-Y1) | | | | | | ... |
| EXAM DAY | .245 | .295 | .345 | .334 | -.083 | -.042 |
| EXAM NIGHT | -.017 | -.028 | -.047 | -.049 | .030 | -.019 |
| NON-COLLEGE | -.238 | -.284 | -.326 | -.315 | .072 | .049 |
| PART-U INDEX | -.089 | -.117 | -.101 | -.100 | .019 | .054 |
| FIRM-T INDEX | .108 | .089 | .071 | .100 | .065 | .008 |
| CURVE - A | .053 | .044 | .040 | .068 | .004 | .013 |
| CURVE - B | -.065 | -.056 | -.079 | -.089 | -.012 | -.002 |
| CURVE - X | .052 | .049 | .148 | .085 | .030 | -.038 |

TABLE 6-16

SELECTED ZERO-ORDER RELATIONSHIPS AMONG EARNINGS EXPECTATIONS AND LEARNING ANTICIPATIONS BY TYPE OF COURSE

| Relationships | General B | General A | Agriculture | Commerce | Technical |
|---|---|---|---|---|---|
| Y1 with YL | .282 | .299 | .200 | .327 | .247 |
| Y1 with Log YL | .268 | .271 | .225 | .329 | .242 |
| Y1 with Y5 | .718 | .583 | .594 | .655 | .569 |
| Y1 with YL/Y1 | -.183 | -.155 | -.284 | -.140 | -.122 |
| Y5 with YL/Y1 | .099 | .290 | .158 | .186 | .203 |
| YL with YL/Y1 | .708 | .786 | .719 | .797 | .839 |
| Y1 with (Y5-Y1)/(YL-Y1) | -.504 | .078 | -.025 | .017 | -.069 |
| Y5 with (Y5-Y1)/(YL-Y1) | .277 | .334 | .162 | .260 | .235 |
| YL with (Y5-Y1)/(YL-Y1) | -.384 | -.472 | -.548 | -.549 | -.567 |
| EXAM DAY with Y1 | .054 | .360 | .281 | .533 | .352 |
| EXAM DAY with Y5 | .176 | .222 | .215 | .417 | .372 |
| EXAM DAY with Log YL | .193 | .237 | .144 | .277 | .272 |
| EXAM DAY with YL/Y1 | -.032 | -.000 | -.081 | -.018 | -.007 |
| PART-U with Y1 | .000 | -.014 | -.076 | -.237 | -.047 |
| PART-U with Log YL | -.030 | -.170 | .021 | -.144 | -.044 |
| PART-U with YL/Y1 | .002 | -.144 | .081 | -.021 | .004 |
| FIRM-T with Y1 | .014 | .024 | .079 | .136 | .083 |
| FIRM-T with Log YL | .030 | .012 | .183 | .117 | .085 |
| FIRM-T with YL/Y1 | .039 | .062 | .146 | .100 | .086 |
| Mean Values: | | | | | |
| YL/Y1 | 5.11 | 5.48 | 6.38 | 5.99 | 5.58 |
| Y5/Y1 | 1.95 | 2.14 | 2.21 | 2.12 | 2.08 |
| (Y5-Y1)/(YL-Y1) | .291 | .327 | .316 | .284 | .293 |

General B where this correlation is highest the proportion of variance explained is only 50 percent.

Two other measures refer directly to the shapes of the anticipated earnings streams. These are the ratio of YL to Y1 and the proportion of the difference between YL and Y1 that is accounted for by gains between the first and fifth years at work. Mean values for these variables, and also for Y5/Y1 are given by upper-secondary curriculum at the bottom of Table 6-16. So far as the ratio YL/Y1 is concerned, what counts is the level of the higher income-expected figure. This could have been inferred in part, but only in part, from the shapes of the distributions in Figure 6-5. The very low correlations between Y1 and YL/Y1, despite some inevitable built-in spurious association, suggests in fact a high degree of independence between first-year and final earnings anticipations even when we throw into the same correlation youth expecting to attend university and responding in those terms and youth who expected to start work almost immediately. Associations between the level of YL and the proportion of the difference between Y1 and YL accounted for by the gains (Y5-Y1) are still strong but, as we should expect, considerably weaker than the associations between YL and the ratio YL/Y1. The most interesting feature of these observations is the fact that correlations of YL with (Y5-Y1)/(YL-Y1) are lower among students in the general curricula, and especially in General B, than among those in the three vocational courses--and conversely, of course, for associations between Y5 and the ratio (Y5-Y1)/(YL-Y1).

There is nothing new about the findings concerning associations between **EXAM** and the indicators of anticipated first year and mature earnings levels except that the small group taking examinations for night university were separated out in Table 6-15, and are seen to fall in intermediate positions between the **EXAM** and the non-college groups, as they do on Y5 as well. Also, **EXAM** is more closely associated with earnings anticipations for the first and fifth years than for those later when we take all students together or those in the vocational courses in particular; however, this does not hold for the General B students. We might then have supposed that **EXAM** would be associated for the General B youth at least with anticipations of a higher slope of YL/Y1, but this does not emerge. The anticipated absolute differences between YL and Y1 are indeed bigger among the college-bound students, but so are their expectations with respect to earnings on first job, and the latter go up at least in proportion to the rise in expectations with respect to earnings in the more distant future. There is nothing here to suggest that youth expecting to go on to university anticipate yet further choices of careers with comparatively low initial incomes and high future returns (high YL/Y1 ratios) as against higher initial earnings but lower gradients in accruals to income over the years thereafter--or that they do the opposite.

There was very little association between responses on the PART-U or the FIRM-T questions and either levels of earnings anticipations or the shapes of expected earnings streams. Nevertheless, some of these findings

are worthy of comment. First, all of the associations with levels of anticipated earnings were negative on the PART-U index and positive on the FIRM-T index when the entire adjusted student sample is taken together, as in Table 6-15. Since the indexes read so that the high scores imply disinterest, the low scores interest in the educational option, these signs imply that a response favoring the taking of night university courses goes along with higher earnings expectations, whereas interest in securing training in the firm went with comparatively modest expectations for earnings at any stage of the life cycle.

Looking within course types the significant relationships involving attitudes toward night-university study were among youth in the General A and the commerce curricula. General A students favoring night-university study were distinguished from their classmates by anticipations of higher earnings in later years and a bigger relative increase in earnings over starting levels. Youth in the commerce curricula who favored part-time night university seem not to have seen it to the same extent as a means toward future earning power: they expected higher initial as well as subsequent earnings than characterized classmates disinterested in the night university possibility. It is only among the General A students, in short, that relationships between attitudes toward night-university education and the time dimensions of anticipated earnings paths would seem to divide the student population along lines consistent with deliberative human-investment choices.

Elsewhere any such differentiation is blurred by other elements influencing patterns of response.

The predominance of other factors that condition responses on FIRM-T is evident again in the positive signs on all associations with the FIRM-T index in Table 6-16. It is those with relatively poor options otherwise, especially among the commerce and the agriculture students, who expressed the most interest in training in an enterprise and vice versa; this is evident whether we look at anticipated earnings gradients or their levels. Among the commerce and the agricultural-course youth, it was those most definitely not interested in training in the firm who were most likely to look forward to successful operation of a growing independent or family enterprise or who anticipated taking over and enlarging a family farm.

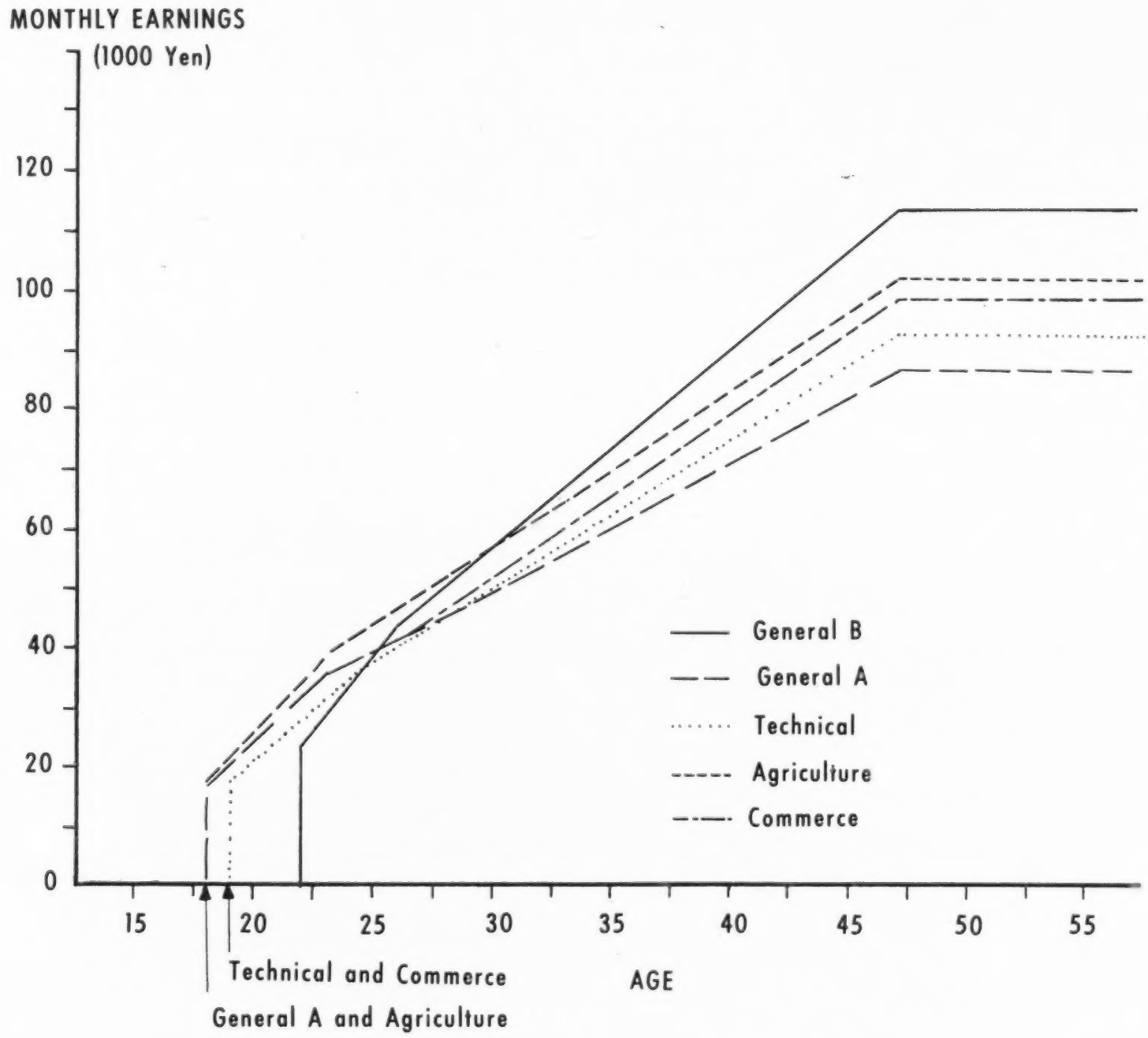
## Anticipated Earnings Paths, Curriculum, and the Upper-Secondary Investment Options

How, when we add it all up, do students in the various curricula differ in their anticipated earnings paths, and what sort of an investment does each of these options seem to be in comparison with alternative types of upper-secondary schooling?

The first half of this two-part question is answered in summary form by the curves shown in Figure 6-8. Expected earnings paths are laid out without corrections for family backgrounds or any other factors that may be associated with enrollment in one type of course or another. They include

**Fig. 6-8**

**Mean Anticipated Earning Paths**
**by Type of Course**



an automatic weighting according to the proportions of graduates going on to university, since the earnings expectations plotted are the means for all students, selecting in each case the set of responses appropriate to the student's university anticipations. On this account, however, we made a crude adjustment for the age at entry to the job market. Thus the agriculture and General A students are shown at the lowest entry age, the technical and commerce students at a slightly higher age, and the General B youth at a normal age for completion of 16 years of schooling. Though crude, the results give us the general picture and ranking of earning streams.

That General B students anticipate the highest earnings in their mature years was of course to be expected. Even setting any other advantages in their backgrounds and locations aside, these youth are taking the academic course and ninety percent of them expect to go on into full day university education. It is equally clear that students in the General A curriculum are at the bottom, with the lowest levels of anticipated earnings. This contrast between General A and General B students in their earnings anticipations would be modified somewhat if we controlled for rurality, but note that the highest stream for curricula other than General B is in the agricultural course. Furthermore, associations between earnings and occupational status anticipations among the General A youth bears very little relationship to parental status; indeed, for those among the General A students who have no interest in further education the association with parental background tends to be perverse. It seems

evident, then, that the contrast between earnings anticipations in the General B population as against students in the General A course is as much a function of which individuals elect to pursue the non-academic route as it is of what that option may do to constrain expectations or ambitions. That a follow-up study would show the General B and General A youth at the extremes, as in Figure 6-8 seems more than likely; this is not just an imagined contrast in the minds of students presently in their senior years. This picture falls in line with such follow-up evidence as is available to us by type of secondary curriculum in the United States, and for much the same reason. The terminal general secondary course has tended both here and in Japan to be negatively selective among urban children with respect to abilities and motivation and to pick up a disproportionate number of rural youth who have only the most nebulous or limited perceptions of where they may be going and the longest roads to travel into modern economic life.

The high levels of anticipated income among youth in the agricultural course comes as a sharp contrast, and in some respects a surprising one. It must be interpreted in the light of our analysis of sons of farmers at the end of Chapter V. The variance in earnings expectations among youth in the agricultural curricula was exceptionally high, those anticipating entry into agriculture came from the more prosperous farming homes, and mean income anticipations are affected by the optimistic outlooks among those youth. It is remarkable, nevertheless, that anticipations among the agricultural students

are so unambiguously above those of either the General A youth or students in the technical curricula.

Expected earnings stream among youth in the commerce and the technical courses run very closely together, despite the fact that in the types of occupations to which they look forward these young people are markedly different. The figure for commerce youth, like that for students in agriculture (though in lesser degree) is pulled up by the presence of some commerce students who anticipate very high incomes in their future roles in a family enterprise.

It is a pity that follow-up studies distinguishing secondary-school graduates by type of curriculum and including earnings data along with types of jobs have not yet become available, and that we found it impossible to carry out our initial plans for such follow-ups. There is of course a serious problem in the interpretation of results covering a few post-school years only, but it should now be possible in Japan to carry such data considerably further. The expectational data raise more serious problems in the case of the technical-course students than any others in that they are very probably the most subject to downward bias because of the humble backgrounds of many of these youth. But what sort of bias in fact is it? The pattern shown in Figure 6-8 is clear enough. The youth from the technical curricula expect to be more successful both absolutely and relative to parental backgrounds than do the young people in the General A curricula, but only moderately so and later on. At the same time, the vast majority of them expect to enter technical-manual employments.

And while they are predominantly an upwardly mobile group in any case, they include overlapping minorities hoping to shift immediately out of technical-manual work and hoping to go on to university that substantially exceed the observed proportions of new technical-course graduates doing these things.[1] The many questions and debates with respect to vocational-technical education on the Japanese education scene today must remain unresolved, but they may take on some new coloration when seen in the perspectives of the young people who cooperated with us by their participation in this study.

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[1]They also include a number of youth who had hoped that they could enter technical junior colleges but had not succeeded for one reason or another in realizing that wish.